SMELOVSKIY, V.P., dotsent; KUDRYAVTSEV, L.A.

Complications in the urinary tract during traumatic urethral strictures. Kaz. med. zhur. 4:25-27 Jl-Ag'63 (MIRA 17:2)

1. Fakul'tetskaya khirurgicheskaya klinika (zav. - dotsent M.P.Makarov) Kuybyshevskogo meditsinskogo instituta i urologicheskoye otdeleniye (nauchnyy rukovoditel' - dotsent V.P. Smelovskiy) Kuybyshevskogo mezhoblastnogo gospitalya dlya invalidov Otechestvennoy voyny (nachal'nik - V.P. Kolevatykh).

KUCHINSKIY,I.N.; PYTKL', A.Ya.; ZISMAN, I.F.; GOLIGORSKIY, S.D.; CHEBANYUK, G.M.; ZALEVSKIY, R.O.; RYABINSKIY, V.S.; DARENKOV, A.F.; KHATAVNER, A.I.; SMELOVSKIY, V.P.; BALTER, M.A.

Abstracts. General problems in urology. Urinary bladder. Urologiia 28 no.5:87-95 S-O'63 (MIRA 17:4)

SMELOVSKIY, V.P., dotsent

Fistulas of the upper segment of the female genital canal.
Akush. i gin. 39 no.3:23-28 My-Je'63 (MIRA 17:2)

1. Iz kliniki fakul'tetskoy khirurgii (zav. - prof. S.L. Libov) i akushersko-ginekologicheskoy kliniki (zav. - prof. I.T. Mil'chenko) Kuybyshevskogo meditsinskogo instituta.

Delay of rooting (in storage) of potatoes by maleic hydrazide. E. Dunkels, B. Baumanis, and T. Smeltere. *Latvijas PSR Zinātņu Akad. Vēstis* 1955, No. 7, 105–12(in Russian; Latvian summary).—Potato plants were sprinkled with soln. of maleic hydrazide (I), with a detergent, at a rate of 1.5–2 kg. in 1000 l. H_2O per ha. one month before the collection of crop. Of the tubers collected 92–6% could be stored until the next season without developing sprouts, and were suitable for all purposes except seeding; I did not prevent budding of the sprouts, but arrested their further growth. The wt. and starch loss in storage was decreased by a factor of 2–3, vitamin C content was preserved, and metabolism during the storage was slowed down. A. D.

SMELTERIS, Ya. [Smelteris, J.], prepodavatel'

"New navigation tables" by V.Kondrashikhin. Reviewed by IA. Smelteris. Mor. flot 23 no.4:21 Ap '63. (MIRA 16:5)

1. Liyepayskoye morskoye uchilishche.
(Navigation--Tables)
(Kondrashikhin, V.)

DUDNIK, I.F.; SMELY, G.N.; STEPANOV, N.M. (Moscow):

"Some results of experimental investigation of stability of cylindrical shells."

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

ADCOCK, W.J.; SMELY, Jiri, inz. [translator]

Mining operation mechanization and its development in Great Britain. Uhli 5 no.5:177-180 My '63.

1. Hlavni inzenyr mechanizace Narodni spravy uhelneho prumyslu, Londyn (for Adcock).

SMELY, V.

KM-1? B mine loader. p. 76 (Mechanisace. Praha. Vol. 2, no. 2/3, Feb./Mar. 1953)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 6, June 1955, Uncl.

[redacted], V.

Mining machines. p. 634. (STROJIR.-MSTVI, Vol. 7, No. 8, Aug 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (MEAL) LC, Vol. 6, No. 12, Dec 1957, Uncl.

CZECHOSLOVAKIA / Farm Animals, Honey Producing Bees. U-11

Abs Jour : Ref Zhur - Biologiya, No 16, 72236

Author : Smely, V.
Title : A New Insulating Material and Its Use in Bee-Keeping.

Orig Pub : Vcelarstvi, 1956, 9, No 11, 166

Abstract : A newly produced insulating material, polystyrene, contains 97 percent of air and three percent foam (by volume). Due to its lightness (1 m^3 = 30-35 kg) and low heat conductivity (0,027), this material is suitable for the preparation of walls, bottom and other parts of the hive. It can be prepared with ease with the usual carpentry tools.

Card : 1/1 - 82 -

HNEVSOVA, V.; SMELY, V.; ERNEST, I.

hydrogenated at 50° with PtO_2 in C_6H_6 yielding 2.03 g. *di-Me hexatriaconitate-22,23-dione-1,46-dioate* (IX), m. 107.5-108° (from MeOH-C_6H_6). IX (1.52 g.) was converted by treatment with 2.5 ml. ($HSCH_2$)$_2$ and 1.5 ml. BF_3-Et_2O to the corresponding *bis(ethylenemercaptole)*, m. 63-77°. Desulfuration by boiling in C_6H_6-MeOH (1:1) 8 hrs. with Raney Ni W4 gave 883 mg. of a product m. 83-7° which on subsequent hydrogenation with PtO_2 yielded 766 mg. *di-Me hexatriaconitate-1,46-dioate* (X), m. 100-1.5° (from C_6H_6-MeOH). X was also obtained in 70-mg. yield by a shorter alternative synthesis including treatment of *diazoacetylpropionate* (b$_{11}$ 77-8°, prepd. from the Me ester chloride of succinic acid and CH_2N_2) with CuO gave *di-Me dec-5-ene-4,7-dione-1,10-dioate*, m. 120-1.5°, in a 33.5% yield; while Me 2-diazoacetylvalerate, bp 103-4°, prepd. from the Me ester chloride of adipic acid and CH_2N_2, was decompd. to *di-Me tetradec-7-ene-6,9-dione-1,14-dioate*, m. 94.5° in 22.2% yield. IV. Selective reduction of unsaturated 1,4-diketones. Ivan Ernest. *Tetrahedron Lett.* No. 5, 1960. Desulfuration of the *bis(ethylenemercaptole)* (I) of *di-Et dodec-6-ene-5,8-dione-1,12-dicarboxylate* (Ia) depends considerably on the activity of the used Raney Ni. I was prepd. by dissolving 4.0 g. Ia and 20 mg. hydroquinone in 4 ml. $HSCH_2$ and dropping into the cooled soln. 4 ml. BF_3-Et_2O. After 36 hrs. the mixt. was shaken with C_6H_6 and 10% soln. of K_2CO_3, and the C_6H_6 was evapd., leaving 6.0 g. clear viscous liquid of I. Desulfuration of I by boiling 1.21 g. in 120 ml. abs. EtOH with 25 ml. suspension of Raney Ni W4 (cf. Pavlic, *C.A.* 40, 6703^3) gave 330 mg. *di-Et dodecane-1,12-dicarboxylate* (II), bp$_{11}$ 135-6°, m. 27°, as the sole product. Alk. hydrolysis of II gave the *free acid* (III), m. 125-6°. Analogous procedure with a catalyst

(over)

HNEVSOVA, V., SMELY, V., ERNEST, I.

that has been deactivated by boiling 2 hrs. with Me_2CO gave a fraction which was identified as a mixt. of 58% II and 41% of the corresponding unsatd. ester, probably *di-Et dodec-6-ene-1,12-dicarboxylate* (IV), characterized by coulometric analysis and by hydrogenation, yielding II. When a 12-hr. inactivation was used, desulfuration of 0.5 g. I gave a 960-mg. fraction, $b_{0.2}$ 135–45°, which on alk. hydrolysis yielded crystals, m. 125–7°, probably of *$HO_2C(CH_2)_4CH_2CH:CHCO(CH_2)_4CO_2H$*, whereas a 6-hr. inactivated catalyst produced a fraction, $b_{0.15}$ 133–7°, apparently of IV, identified by hydrogenation which gave II and after alk. hydrolysis yielded III. A parallel expt. from 4.7 g. I gave a 1.18-g. fraction, $b_{0.4}$ 124–7°, which was chromatographed on Al_2O_3 yielding by alk. hydrolysis of the ligroine eluate 40 mg. cryst. *dodec-6-ene-1,12-dicarboxylic acid*, m. 107–9°, confirmed by coulometric analysis. Attempts were made at overcoming difficulties encountered in the prepn. of unsatd. dicarboxylic acids of the type $RO_2C(CH_2)_nCOCH:CHCO(CH_2)_nCO_2R$ (V) by prepg. addn. compds. of V with anthracene (VI), however, without success. The adduct of Ia and VI obtained by heating 5 hrs. powd. mixt. of 3.6 g. VI with 0.8 g. V (n = 4, R = Et) forms crystals, m. 78–9° (from cyclohexane-C_6H_6), yielding on sapon. crystals, m. 185–4° (from C_6H_6-AcOH). Similarly was prepd. the adduct of *di-Me oct-4-ene-3,6-dione-1,8-dicarboxylate* with VI from 0.7 g. VI and 1.0 g. V (n = 2, R = Me), forming needles, m. 136.5° (from C_6H_6), and yielding on sapon. crystals m. 213–14° (decompn.)(from AcOH).

L. J. Urbánek

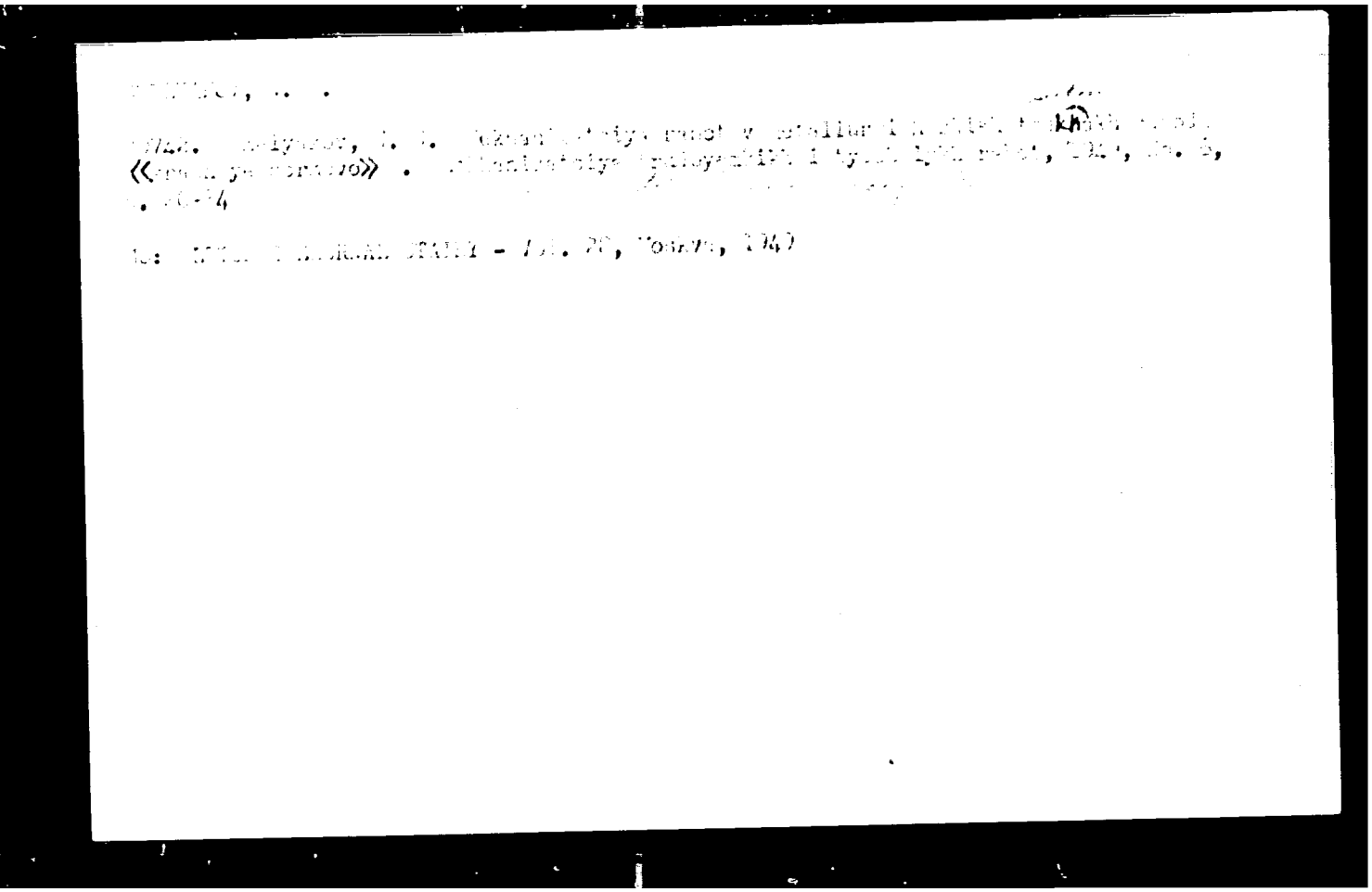
SMIRNOV, Z. I., BIOTROV, V. M. and TUTORSKIY, I. A. (USSR)

Vzaimodeistvie karboksil soderzhashchikh butadien-stirolnykh kauchukov s poliamidami i epsilon-kaprolaktamom
Interaction of carboxyl-containing butadiene-styrene rubbers with polyamides and epsilon-caprolactam
IUPAC S III:224-35

report presented at the Intl. Symposium on Macromolecular Chemistry, Moscow, 14-18 June 1960.

SMELYAKOV, A.

Work is a basis for national prosperity. Sov. profsoiuzy 18 no.3:28-29 F '62. (MIRA 15:3)
(Efficiency, Industrial)



SMELYAKOV, N. N. and N. F. KOSARIKOV.

Ispravlenie porokov otlivok. Moskva, Mashgiz, 1950. 221 p.

Repair of casting defects.

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

SMELYAKOV, N.N.

[Production of castings with inserts] Izgotovlenie armirovannykh otlivok. Sverdlovsk, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry [Uralo-Sibirskoe otd-nie] 1953. 190 p. (MLRA 6:12)
(Metal castings)

SMELYAKOV, N.N.

KUZELEV, M.Ya.; SKVORTSOV, A.A.; SMELYAKOV, N.N. [authors]; OKUN', M.A. [reviewer].

Response to M.IA.Kuzelev's, A.A.Skvortsov's, and N.N.Smeliakov's book "Foundry master's manual." Reviewed by M.A.Okun'. Kryl.rod. 4 no.8: p.3 of cover. Ag '53. (MLRA 6:7)
(Founding) (Kuzelev, M.IA.) (Skvortsov, A.A.) (Smeliakov,N.N.)

KUZELEV, Mikhail Yakovlevich; SKVORTSOV, Aleksey Anatol'yevich; SMELYAKOV, Nikolay Nikolayevich; ZOBNIN, B.F., kandidat tekhnicheskikh nauk, retsenzent; BORETSKIY, A.A., dotsent, otvetstvennyy redaktor; VOLFYANSKIY, L.M., inzhener, redaktor; GINZBURG, M.R., inzhener, redaktor; DEMIDOV, A.F., inzhener, redaktor; ZAKHAROV, B.F., inzhener, redaktor; IVANOV, K.M., inzhener, redaktor; KOKOVINA, A.S., inzhener, redaktor; KRESTNIKOV, B.A., inzhener, redaktor; NAZUMOVA, M.S., inzhener, redaktor; SIDORENKO, R.A., inzhener, redaktor; ROZENBERG, I.A., kandidat tekhnicheskikh nauk, redaktor; DUGINA, N.A., tekhnicheskiy redaktor

[Foundry worker's handbook] Spravochnik rabochego-liteishchika. Izd. 2-oe, dop. i perer. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 634 p. (MLRA 10:4)
(Founding)

PHASE I BOOK EXPLOITATION 399

Noskov, Boris Alekseyevich, and Smelyakov, Nikolay Nikolayevich

Konstruirovaniye litykh detaley (Design of Cast Parts) Kiyev, Mashgiz, 1957. 210 p. (Biblioteka konstruktora) 8,600 copies printed.

Sponsoring Agency: Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Kiyevskaya oblastnaya organizatsiya.

Reviewer: Ryzhikov, A. A., Doctor of Technical Sciences, Professor; Ed.: Soroka, M. S.; Tech. Ed.: Rudenskiy, Ya. V.

PURPOSE: This book is designed as a manual for engineers, designers and technicians engaged in machine building. It may also be used by foundry engineers.

COVERAGE: The authors stress the importance of castings in machine design. In this book they describe the elements of design of ferrous and nonferrous castings. A few chapters are devoted to various methods of casting such as investment precision casting, pressure casting, centrifugal casting,

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AVAILABLE: Library of Congress

Card 5/5

GO/vm
6-11-58

TABLE OF CONTENTS:

KUZELEV, Mikhail Yakovlevich; SKVORTSOV, Aleksey Anatol'yevich; SHELYAKOV, Nikolay Nikolayevich; DUBITSKIY, G.M., doktor tekhn. nauk, retsenzent; ZOBNIN, B.F., kand. tekhn. nauk, retsenzent; KOROTKOV, V.G., kand. tekhn. nauk, retsenzent; LEVCHENKO, P.V., kand. tekhn.nauk, retsenzent; MAKURIN, P.I., kand. tekhn. nauk, retsenzent; PASTUKHOV, A.I., kand. tekhn. nauk, retsenzent; PORUCHIKOV, Yu.P., kand. tekhn. nauk, retsenzent; ROZENBERG, I.A., kand. tekhn. nauk, retsenzent; SERGEICHEV, N.F., kand. tekhn. nauk, retsenzent; FILIPPOV, A.S., kand. tekhn. nauk, retsenzent; YAROSHENKO, Yu.G., kand. tekhn. nauk, retsenzent; BAZAROVA, N.V., inzh., retsenzent; BLANK, E.M., inzh., retsenzent; VOLFYANSKIY, L.M., inzh., retsenzent; ZAKHAROV, B.P., inzh., retsenzent; MYSHALOV, S.V., inzh., retsenzent; RAZUMOVA, M.S., inzh., retsenzent; SHABALIN, L.A., inzh., retsenzent; SHKUNDI, R.M., inzh., retsenzent; DUGINA, N.A., tekhn. red.

[Handbook of foundry practice] Spravochnik rabochego-liteishchika. Izd.3. Moskva, Mashgiz, 1961. 584 p. (MIRA 15:4)

(Founding--Handbooks, manuals, etc.)

ACC NR: AT7002962 (A) SOURCE CODE: UR/0413/66/000/024/0041/0042

INVENTOR: Bushmin, M. Ye.; Smelyakov, V. V.; Mints, M. Ya.; Pungin, L. M., Tolstikov, V. F.

ORG: None

TITLE: A digital infrasonic phase-frequency meter. Class 21, No. 189485 [announced by the Kharkov Higher Master Engineering Academy (Khar'khovskoye vyssheye komandno-inzhenernoye uchilishche)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 24, 1966, 41-42

TOPIC TAGS: digital system, phase meter, frequency meter, logic element

ABSTRACT: This Author's Certificate introduces a digital infrasonic phase-frequency meter with intermediate time-pulse conversion containing a standard generator with output connected through controlled rectifiers to the inputs of addition and subtraction pulse counters, a shaping network and a registration unit. Measurement accuracy is improved and speed is increased by using a frequency divider connected to the input circuit of the subtraction counter in series with a controlled rectifier, together with a control unit based on logical elements and a reversible counter. One of the inputs of the control unit is connected to the shaping network, the other input is connected to the subtraction counter and the outputs are connected to the controlled rectifiers.

Card 1/2 UDC: 621.317.761:621.317.772

SMELYAKOV, V. V.

Nekotoryye Voprosy Rascheta i Konstruirovaniia Elektromagnitnykh Priborov s Z-Obraznym Podvizhnym Serdechnikom. V. V. Smeliakov. *Izmeritel'naia Tekhnika*, Sept.-Oct., 1956, pp. 25-29. In Russian.
Analysis of different aspects of the calculation and design of electromagnetic devices having a Z-shaped movable core.

SMELYAKOV, YE. P

AID Nr. 979-5 29 May

DEEP DRAWING ON DROP HAMMERS (USSR)

Saparovskiy, S. V., and Ye. P. Smelyakov. Kuznechno-shtampovochnoye proizvodstvo, no. 4, Apr 1963, 25-27. S/182/63/000/004/004/004

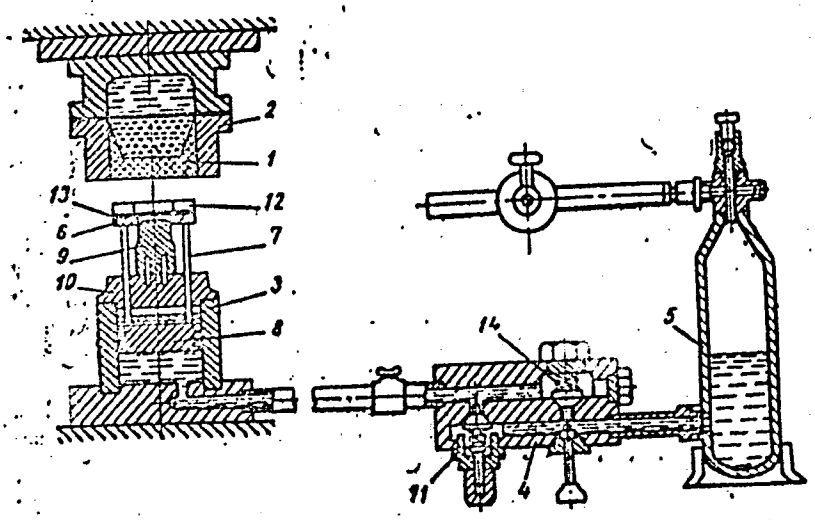
The Kuybyshev Aviation Institute has developed a special hydraulic unit (see illustration) which makes it possible to use the "elastic die-rigid punch" method for deep drawing on drop hammers instead of presses. Elastic die *1* is placed into steel container *2*, which is fastened to the drop hammer ram. For better elasticity and more uniform distribution of pressure exerted on the blank, the

Card 1/3

AID Nr. 979-5 29 May

DEEP DRAWING ON DROP HAMMERS [Cont'd] S/182/63/000/004/004/004

top part of the container is filled with water and a rubber bag filled with granulated rubber is placed into the bottom part of the container. The top part



Card 2/3

AID Nr. 979-5 29 May

DEEP DRAWING ON DROP HAMMERS [Cont'd] S/182/63/000/004/004/004

(with fluid) of the container is separated from the bottom part by a rubber diaphragm. Floating piston *8* placed within steel cylinder *3* carries studs *7*, which pass through the cylinder lid *3*, and carry holder *6*, blank *13*, and hold-down ring *12*. Interchangeable punch *9* is fastened to lid *10*. The required fluid pressure in cylinder *3* is maintained by means of spring valve *11* in distributor box *4*. Accumulator *5* receives fluid from cylinder *3* during the deep-drawing process and returns it by means of compressed air. The deep-drawing process is completed by several strokes of the ram with the reduction obtained in a single draw controlled by the spring of valve *14*. After completion of the deep-drawing process, accumulator *5* is filled with compressed air which, with valve *14* open, forces the fluid into cylinder *3* and moves the piston *8* upward, removing the drawn part from the punch. Interchangeable tools (punch *9*, holder *6*, and ring *12*) are made from case-hardened carbon steel for the deep drawing of duralumin, carbon steel, and alloy steel sheet 3 mm thick and heavier, and from zinc, wood, or plastic for the deep drawing of thinner gages. Experiments with hard-to-form materials were performed with preheating of the holder, blank, and ring. The method makes it possible to obtain draw ratios 8 to 10% higher than those in conventional dies. [SS]

Card 3/3

SAPAROVSKIY, S.V.; SMELYAKOV, Ye.P.

New method of the deep drawing of parts on sheet-metal working hammers. Kuz.-shtam.proizv. 5 no.4:25-27 Ap '63. (MIRA 16:4)

(Deep drawing (Metalwork))
(Sheet metal working machinery)

SAFAROVSKIY, Sergey Vladimirovich; KOMAROV, Anatoliy Dmitriyevich; SMELYAKOV, Yevgeniy Petrovich; FARMANOVA, Viktoriya Nikolayevna; FIT'YEV, P.Ya., inzh., retsenzent; KOROBOV, V.K., kand. tekhn. nauk, retsenzent; RAZUMIKHIN, M.I., prof., red.; PETROPOL'SKAYA, N.Ye., red.

[Rubber pad forming] Shtampovka rezinoi. Kuibyshev, Kuibyshevskoe knizhnoe izd-vo, 196-. 106 p. (MIRA 18:7)

L 26272-66 EWP(k)/EWT(m)/EWA(d)/EWP(t) IJP(c) JH/JD/HW
ACC NR: AP6012612 SOURCE CODE: UR/0182/66/000/004/0023/0024

AUTHOR: Sorokin, I. N.; Saparovskiy, S. V.; Smelyakov, Ye. P.; Shil'meyster, B. D.

35
B

ORG: none

TITLE: Stretch forming of metal sheets with vibrations

18

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 4, 1966, 23-24

TOPIC TAGS: metal forming, sheet forming, stretch forming, vibration forming

ABSTRACT: The effect of vibration in stretch forming has been investigated in forming D16AM aluminum-alloy sheets (200 x 300 x 1 mm). Vibrations were applied either perpendicular to or in the direction of the stretching pressure. Perpendicular vibrations with a force of 110—355 kg, a frequency of 45—70 Hz, and an amplitude of 0.3—0.8 mm increased considerably the relative deformation at the same stretching pressure. The relative deformations achieved in the first four stretch forming steps were 7.0, 12.5, 15.5, and 17.0% without vibration and 11.0, 17.5, 15.5, and 26.0 with vibration. Vibration in the direction of stretching pressure at a frequency of 20—30 Hz and an amplitude of 0.09—0.22 mm had a similar effect. It increased the relative deformation in five steps from 7.5, 9.5, 12.0, 14.0, and 16.0% to 13.5, 16.0, 20.0, 24.0, and 27.0%. Thus, vibration increases the relative deformation and makes it possible to achieve the desired shape in fewer steps or to use a lower pressure to achieve the same relative deformation compared to

Card 1/2 UDC: 621.98.043

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ACC NR: AP6012612

conventional stretch forming without vibration. Vibrations applied simultaneously in both directions reduce the stretching pressure by 30% and increase the relative deformation from 22.5 to 33.0%. Orig. art. has: 1 figure and 4 tables. [WW]

SUB CODE: 13/ SUBM DATE: none/ ORIG REF: 001/ ATD PRESS: 4243

Card 2/2 CC

MOCHALOV, V.A.; MATYUSHCHENKO, D.D.; KRIVITSKIY, A.A.; GLEZER, G.N.; OPARIN, I.M.; KHEYMAN, E.L.; SMETNEV, N.N.; EPSHTEYN, A.L.; GUSEV, B.Ya.; LEYKIN, L.P., MARCHENKO, G.M.; FISHKOV, V.G.; SAPROVSKIY, S.V.; LYAKHOVSKIY, I.I.; SMELYAKOV, Ye.P.; VAYNTRAUB, D.A.; BUDYLIN, M.M.; NOTKIN, Ye.M.; KUR, G.Ye.; ARONSHTEYN, N.A.; SUKHAREV, V.I.; VINOGRADOV, K.N.; BOBROVSKIY, N.S.

Innovators' certificates and patents. Mashinostroenie no. 2: 103-109 Mr-Ap '64. (MIRA 17:5)

ACC NR: AR6031776 SOURCE CODE: UR/0276/66/000/006/V017/V017

AUTHOR: Smelyakov, Ye. P.; Saparovskiy, S. V.; Kaluzhskiy, I. I.

TITLE: A study of the process of pulsed deep drawing with fold formation

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya, Abs. 6V115

REF SOURCE: Tr. Kafedry proiz-va letatel'n. apparatov. Kuybyshevsk. aviats. in-t, vyp. 20, ch. 2, 1965, 19-40

TOPIC TAGS: deep drawing, deformation, pulsed deep drawing

ABSTRACT: A method was developed for pulsed deep drawing with fold formation. With this method, the mechanical diagram of the deforming material is improved considerably by combining the drawing elements (without clamping) and by the intermittant application of pressure and the sizing of the flange after the latter loses its stability. It was found that the degree to which the flange is strengthened during one pulse may serve as a criteron for selection of the amount of the depth increase in drawing. The magnitude of the increment of the drawing depth for a single pulse can be calculated either from the derived formulas or by a graphic method of solving equations with a nomogram. Orig. art. has: 8 figures. Six references are given. [Translation of abstract]

Card 1/1 SUB CODE: 13/ UDC: 621.983.3 vibration forming

ACC NR: AR7004883 SOURCE CODE: UR/0276/66/000/009/V021/V021

AUTHOR: Saparovskiy, S. V.; Smelyakov, Ye. P.; Kaluzhskiy, I. I.

TITLE: Study of the stepped cupping of parts using a sheet-stamping hammer in a special setup

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya, Abs. 9V144

REF SOURCE: Tr. Kafedry proiz-va letatel'n. apparatov. Kuybyshevsk. aviats. in-t, vyp. 20, ch. 2, 1965, 3-18

TOPIC TAGS: stepped extrusion, extrusion ratio, metal extrusion, buckling, bending, cupping

ABSTRACT: The process of cupping of each stage can be divided into bending and extrusion of the blank prior to the moment of buckling of the flange; extrusion with folds on the flange; and straightening of folds and moderate extrusion. The extrusion force is highest at the first stage; it is 30—40% lower than in conventional extrusion. Experimental data show that stepped cupping permits the use of an extrusion ratio 20—25% lower than that for conventional stamping. Intermittent loading also reduces

Card 1/2 UDC: 621.983.3.001.1

ACC NR: AR7004382 SOURCE CODE: UR/0276/66/000/009/V021/V021

AUTHOR: Smelyakov, Ye. P.

TITLE: Determination of force required for sizing the flange in extrusion with folding

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya, Abs. 9V143

REF SOURCE: Tr. Kafedry proiz-va letatel'n. apparatov. Kuybyshevsk. aviats. in-t, vyp. 20, ch. 2, 1965, 41-54

TOPIC TAGS: metal drawing, metal extrusion, force determination, flange sizing, extrusion, folding, sizing

ABSTRACT: Calculation of the force required for sizing a flange is cited. As an initial condition it is assumed that all folds formed during production are cylindrical in shape. Monograms were plotted for facilitating the use of the results obtained. The monograms were verified experimentally by pulsed drawing with folding of sleeves 50 mm in diameter from D16AM. The tests have confirmed that the force for sizing the flange calculated from monograms insures a normal extrusion process. Orig. art. has: 6 figures and a bibliography of 5 reference items. S. Shirman. [Translation of abstract] [AM]

Card 1/1 SUB CODE: 13/ UDC: 621.983.3.001.1

Distr: 4E2c(j)

Influence of steric factors on the properties of dyes containing the biphenyl nucleus. VIII. Bisazo dyes from m- and p-aminobenzoyl derivatives of benzidine and 2,2'-dimethylbenzidine. B. M. Krasovitskii, B. I. Ostrovskaya, and V. B. Smelyakova (A. M. Gor'kii State Univ., Kharkov). *Ukrain. Khim. Zhur.* 23, 496–500(1957)(in Russian); cf. C.A. 51, 9702b.—Dyes of the types ($H_2NR'CONH)_2R''$ (I) and $RN_2R'CONHR''N_2R$ (II) are reported (R, R'', λ max. and substantivity in % given). Type I: p-C_6H_4, 4,4'-biphenylene (III), 530, 70; m-C_6H_4, III, 520, 63; p-C_6H_4, 2,2'-dimethyl-4,4'-biphenylene (IV), 529, 74; m-C_6H_4, IV, 530, 34. Type II: p-C_6H_4, p-C_6H_4, 558, 63; p-C_6H_4, III, 546, 82; m-C_6H_4, III, 546, 74; m-C_6H_4, p-C_6H_4, 540, 27; m-C_6H_4, m-C_6H_4, 532, 13; p-C_6H_4, IV, 530, 70. Change from p-C_6H_4 to m-C_6H_4 produces a hypsochromic shift as does that from III to IV in type II where the azo group is directly attached to the biphenyl nucleus. If the azo group is directly bound to III the absorption is at longer wave lengths than when it is separated by an amide linkage. Change from III to IV in type I is bathochromic. The m.ps. of the following are reported (R, R'', and m.p. given): $(H_2N-$ p-R, NO; p-C_6H_4CONH, V, III, 287°; m-C_6H_4CONH, VI, III, 252°; V, IV, 167°. The m.ps. of the following $(O_2NR'CONHR''$ are: VI, III, 357°; VI, IV, 223°; $H_2NR'CONHR''$, NH_2, V, III, 292°; VI, III, 198°; V, IV, .HCl salt sinters 147°; $(H_2NR'CONH)_2R$, VI, III, .HCl salt decomp. 303°); VI, IV, 176°. IX. Influence of steric structure on the

1/2

B M KRASOVITSKII, B. I OSTROVSKAJA

Color of monoazo dyes derivatives of biphenyl fluorene and binaphthyl. B. M. K[illegible] and [illegible] L. V. Serova. *Ibid.* 501 [illegible] The [illegible] and R given [illegible] component are as follows [illegible] O_2N, 1,4-$C_6H_4C_6H_4$ [illegible] 20 mμ [illegible] dimethyl [illegible] H or O_2N, 2,7-fluorylene, 516 mμ. H or O_2N, 3,3'-dimethyl [illegible] H or O_2N, 4,4'-biphenylene, 4,4'-biphenylene, 508 mμ. H or O_2N, 4,4'-biphenylene, 408 mμ. 408 mμ. H or O_2N, 2,2'-dimethyl-4,4'-biphenylene, 408 mμ. Me, m-C_6H_4, Me, o-C_6H_4, 496 mμ, O_2N, p-C_6H_4, 494 mμ. Me, m-C_6H_4, 400 mμ. H, C_6H_4. A p-O_2N group is bathochromic in derivs. of $PhNH_2$, but this effect does not carry through 2 rings. The more planar derivs. of Ph_2 and fluorene have greater λ.

John Howe Scott

17

2/2

P.M

KRASOVITSKIY, B.M.; SMELYAKOVA, V.B.

Partial reduction of 4, 4'-dinitrobenzanilide. Zhur.VKHO 6 no.5:588 '61. (MIRA 14:10)

1. Khar'kovskiy gosudarstvennyy universitet imeni A.M.Gor'kogo.
(Benzanilide)

KRASOVITSKIY, B.M.; SMELYAKOVA, V.B.

Relationship between the structure and properties of dyes, derivatives of benzanilide. Part 3: Disazo dyes from 4,4'-diamino derivatives of phenylacet anilide and of benzoic benzylamide. Zhur.ob.khim. 31 no.7:2256-2259 Jl '61. (MIRA 14:7)

1. Khar'kovskiy gosudarstvennyy iniversitet imeni A.M. Gor'kogo.
(Benzanilide) (Azo dyes) (Acetanilide)

L 12908-65 EWT(m)/EPF(c)/T/EWP(j) Pc-4/Pr-4 RPL/AFWL/APGC(b)/AS(mp)-2/ ASD(a)-5/BSD/ESD(gs)/ESD(t) RM/JW

ACCESSION NR: AP4047177 S/0051/64/017/004/0558/0564

AUTHORS: Krasovitskiy, B. M.; Smelyakova, V. B.; Nurmukhametov, R. N.

TITLE: Absorption and fluorescence spectra of certain azomethine derivatives of benzidine and its 2,2' and 3,3' dichlorosubstitutes

SOURCE: Optika i spektroskopiya, v. 17, no. 4, 1964, 558-564

TOPIC TAGS: absorption spectrum, fluorescence spectrum, benzidine

ABSTRACT: For comparison with similar tests on salicylal aniline and its derivatives (DAN SSSR v. 143, 1145, 1962; ZhFKh v. 37, 2432, 1963), the authors investigated the absorption spectra of the condensation products of aniline, ortho-, meta-chloranilines, benzidine, and its 2,2' and 2,2' dichloroderivatives with salicylic and 2-oxy-1-naphthoic aldehydes in dimethylformamide, and the fluorescence spectra of frozen solutions (77K) of these substances in the same solvent. The doubling of the salicylal aniline molecule causes

Card 1/3

a bathochromic shift of the absorption and fluorescence bands, evidencing appreciable conjugation between the two halves of the disalicylal benzidine molecule. Disalicylal benzidine and its 3,3' dichloroderivative differ very little in their absorption spectra; their fluorescence spectra are also of like character, but the fluorescence intensity of the latter is much larger than that of the former. At the same time, the absorption and fluorescence bands of 2,2' dichloroderivative of disalicylal benzidine are less intense, owing to the spatial difficulties in the grouping of the biphenyl, and are shifted towards the short-wave end of the spectrum compared with the disalicylal-benzidine and disalicylal-3,3'-dichlorobenzidine. The rules characteristic of the derivative of salicylic aldehyde hold true also for the absorption and fluorescence spectra of the products of condensation of the foregoing amines with 2-oxy-1-naphthaldehyde. Plots of the various spectra and of the time variation of the fluorescence intensity are presented. The azomethine derivatives of the diamines of the benzidine series are

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651420016-5"

L 12908-65
ACCESSION NR: AP4047177

shown to be more immune to radiation and exhibit stronger light absorption and fluorescence than their "halves" with shorter chains of conjugated double bonds. A table of the melting temperatures, analyses, and yields of the various substances is presented. Orig. art. has: 10 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 23Sep63 ENCL: 00

SUB CODE: OP NR REF SOV: 004 OTHER: 007

Card 3/3

AUTHOR: Smelyan, G. SOV/25-58-12-23/40

TITLE: Automatic Engineer (Mashinist-avtomat)

PERIODICAL: Nauka i zhizn', 1958, Nr 12, p 65 (USSR)

ABSTRACT: Cybernetic engineering has already proved the possibility of designing automatic machine replacing the functions of human brain. In this category belong the first "Automatic Engineer" constructed by Soviet scientists and engineers. This device, a small specialized computing machine, governs the operation of trains without the presence of men. The new cybernetic machine was tested on the Moscow-Kuybyshev railroad.

Card 1/1

FAYNBERG, G.S., inzh.; SMELYANETS, S.G., inzh.; OKUSOK, A.A., inzh.

Planning power supply for mines and pits under construction.
Shakht.stroi. 8 no.1:5-9 Ja '64. (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii shakhtnogo stroitel'stva.

SMELYANETS, S.G., inzh.; KAPLAN, I.A., inzh., PAYNBERG, G.S., inzh.,
TULUB, P.I., inzh.

Industrial testing of the ONK-10 equipment. Shakht. stroi. 9 no.7:27-28 Jl '65. (MIRA 18:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii shakhtnogo stroitel'stva.

VOYEVODIN, A.V., kand. sel'skokhoz. nauk; KUDEL', K.Ye., nauchnyy sotrudnik; MURAROVA, O.I.; NIBYT, V.A.; TARASENKO, I.M., kand. biolog. nauk; SMELYANETS, V.P.; PALASKAS, D.N.; KOROBATOV, V.A., starshiy nauchnyy sotrudnik; BORDUKOVA, M.; KACHAYEVA, V., semenovod; GLINKA, Ye., agronom; SHEVCHENKO, A.B., aspirant; BOCHAROV, K., GLEBOV, M.A., kand. ekonom. nauk

Results of herbicide testing. Zashch. rast. ot vred. i bol. 9 no.7:23-26 '64. (MIRA 18:2)

1. Vsesoyuznyy institut zashchity rasteniy (for Voyevodin). 2. Ukrainskiy nauchno-issledovatel'skiy institut zashchity rasteniy (for Kudel', Smelyanets). 3. Nachal'nik Kiyevskoy oblastnoy stantsii zashchity rasteniy (for Murarova). 4. Zaveduyushchiy Mironovskim punktom signalizatsii (for Nibyt). 5. Nizhnedneprovskaya stantsiya obleseniya peskov i vinogradarstva na peskakh, TSuryupinsk, Khersonskoy oblasti (for Tarasenko). 6. Zaveduyushchiy Kokandskim nablyudatel'nym punktom, Fergansкoy oblasti (for Palaskas). 7. Azerbaydzhanskiy nauchno-issledovatel'skiy institut khlopkovodstva, Kirovabad (for Korobatov). 8. Zaveduyushchiy Moskovskoy kartofel'noy toksikologicheskoy laboratoriyey (for Bordukova). 9. Sovkhoz "Voskresenskiy", Moskovskoy oblasti (for Kachayeva). 10. Moskovskaya kartofel'naya toksikologicheskaya laboratoriya (for Glinka). 11. Ukrainskiy institut rasteniyevodstva, selektsii i genetiki imeni V.Ya. Yur'yeva (for Shevchenko). 12. Nachal'nik Kurskoy stantsii zashchity rasteniy (for Bocharov).

ACC NR: AT7005806 (A, N) SOURCE CODE: UR/0000/66/000/000/0078/0084

AUTHORS: Troyanskiy, V. B.; Smelyanskaya, A. V.

ORG: none

TITLE: Solution of one-group critical problems by the wave method

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Inzhenerno-fizicheskiye voprosy yadernykh reaktorov (Problems of nuclear reactor engineering and physics); sbornik statey. Moscow, Atomizdat, 1966, 78-84

TOPIC TAGS: nuclear reactor, transport equation, breeder reactor

ABSTRACT: The critical dimensions of reactors of several different geometries are found using the general solution of the one-group transport kinetic equation in the breeder material. The Fourier integral expansion of the general solution is of the form

$$\varphi_1(\rho, \Omega) = \frac{A_1 c_1}{8\pi} \int_{\infty} dx' e^{ix'\rho} \frac{\delta(x' - x_1) + \delta(x' + x_1)}{1 + ix'\Omega},$$

where $x_1 = \frac{x}{\Sigma_{tr}}$ is the dimensionless material parameter of the breeder material determined by the characteristic equation

$$\frac{x_1}{\operatorname{arc\,tg} x_1} = c_1; \quad c_1 = \frac{\nu_f \Sigma_f + \Sigma_s (1 - \bar{\mu})}{\Sigma_{tr}} > 1,$$

Card 1/2

SMELYANSKAYA, B. YA.

621.316.722 : 621.314.222.7 : 621.316.925.4

4125. Relay protection of the booster transformers for longitudinal natural voltage regulation. B. YA. SMELYANSKAYA AND A. B. CHERNIN. *Elektrichestvo*, 1954, No. 5, 18-23. *In Russian.*

Booster transformers used nowadays for this purpose usually comprise a pair of magnetically separated transformers within one casing, the first transformer being the regulating autotransformer with tappings, supplied from the l.v. winding of the main transformer and the second (the "series" transformer) supplied from the autotransformer. The secondary winding of the series transformer is connected to the neutral terminals of the h.v. winding of the power transformer. Under certain conditions it is possible to combine the differential protections of power and regulating transformers, these conditions being analysed in the paper. It is not easy to prevent the protection from responding to the regulating currents and simultaneously keep it sensitive to internal s.c. currents in the regulating transformer. This is quite impossible with some of the circuit variants suggested and other variants presuppose the use of relays with damper windings. Similar difficulties are also met with in variants using saturable transformers for interconnection of the relays. Discrimination between internal and external short-circuits is required and this is made possible by "blocking" current relays inserted in the main transformer circuit. Problems of overcurrent protection are also considered. B. P. KRAUS

Teploelektroproyekt.

AUTHORS: Shelyanskaya, B. Ya., Engineer, Fabrikant, 105-58-4-24/37
Ye. M, Engineer

TITLE: Conference for the Checking of the Proposed Directives for Relay Protection (Soveshchaniye po rassmotreniyu proyekta rukovodyashchikh ukazaniy po releynoy zashchite)

PERIODICAL: Elektrichestvo, 1958, Nr 4, pp. 83-84 (USSR)

ABSTRACT: In December 1957 in Moscow a conference took place for the evaluation of the proposed directions for relay protection of station and substation elements. The project had been worked out by the "Teploelektroproyekt" Institute. The conference was called by the Department for Relay Protection at the Commission for Long Distance Transmission of the ENIN imeni Krzhizhanovskiy of the AS USSR and by the MONTOEP (Moscow Branch of the All-Union Scientific Technical Society of Power Engineering Industry). Representatives of the power engineering systems, of scientific research and training institutes, of projecting organizations and many others took part in it. Professor A M. Fedoseyev, Doctor of Technical Sciences, said in his in-

Card 1/3

105-58-4-24/37

Conference for the Checking of the Proposed **Directives** for Relay Protection

Ustinov discussed a number of problems in connection with the organization of the publication of these directions and showed problems in the field of relay protection. I. A. Syromyatnikov evaluated the general state of relay protection in the USSR.

AVAILABLE: Library of Congress

1. Relay protection-Directives-Conference

Card 3/3

LOSEV, S.B.; SMELYANSKAYA, B.Ya.; FEDOSEYEV, A.M., prof., doktor tekhn. nauk, red.; LEPESHINSKAYA, Ye.V., red.; AKHLAMOV, S.N., tekhn. red.

[International electrical engineering dictionary] Mezhdunarodnyi elektrotekhnicheskii slovar'. Izd.2. Moskva, Gos.izd-vo fiziko-matem.lit-ry. Group 16. [Relay protection] Releinaia zashchita. 1960. 114 p. (MIRA 13:5)

1. International Electrotechnical Commission. (Dictionaries, Polyglot) (Electric relays--Dictionaries)

L 9828-66 EWA(h)

ACC NR: AP6003970 SOURCE CODE: UR/0104/65/000/005/0093/0093

AUTHOR: Sarkisov, M. A.; Rokotyan, S. S.; Uspenskiy, B. S.; Sharov, A. N.; Zhulin, I. V.; Fedoseyev, A. M.; Koroley, M. A.; Khevfits, M. E.; Yermolenko, V. M.; Petrov, G. Ya.; Azar'yev, D. I.; Krikunchik, A. D.; Polyakov, I. P.; Sazonov, V. I.; Khvoshchinskaya, Z. G.; Kartsev, V. L.; Smelyanskaya, B. Ya.; Kozhin, A. N.; Losev, S. B.; Dorodnova, T. N.; Rubinchik, V. A.; Smirnov, E. P.; Rudman, A. A.

50

ORG: none

TITLE: Abram Borisovich Chernin

SOURCE: Elektricheskiye stantsii, no. 5, 1965, 93

TOPIC TAGS: electric engineering, electric engineering personnel

ABSTRACT: An engineer since 1929, A. B. Chernin has worked for years in developing new techniques and equipment for relay protection of electric power systems. In this 60th birthday tribute, he is credited with leading the group which produced the directives on relay protection, contributing to the development of a method for calculating transient processes in long distance 400-500 kv power transmission lines and with aiding in planning of the electric portions of power stations, substations and power systems. The results of his engineering and scientific work have been published 46 times, he is a doctor of technical sciences (since 1963), and has taught for 30 years at the Moscow Power Institute. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 09 / SUBM DATE: none

HW

Card 1/1

L 51400-65 EWT(1)/EPA(s)-2/EWT(m)/EWP(e)/EWP(i)/EEC(t)/EWP(b) Pq-4/Pt-7/P1-4
IJP(c) GG/WH

ACCESSION NR: AP5010703 UR/0181/65/007/004/1008/1011

AUTHOR: Mashkovich, M. D.; Smelyanskaya, E. N. 15

TITLE: Concerning the nature of dielectric losses in glasses at microwave frequencies

SOURCE: Fizika tverdogo tela, v. 7, no. 4, 1965, 1008-1011

TOPIC TAGS: alkali free glass, dielectric loss, dielectric constant, solid dielectric, microwave loss

ABSTRACT: Apparatus is described for the measurement of the dielectric constant and the tangent of the dielectric loss angle of a solid dielectric at 3 cm wavelength in the temperature interval 100--300K. The measurements were made by a cavity method at a H_{01} load by determining the change in the Q and in the resonant length of the cavity upon introduction of the sample. The cavity was excited from a type 51I generator through a coupling aperture, and the indicator was a galvanometer. The linear dimensions of the cavity were varied with a micrometric screw and measured with a micrometer scale. Typical results are shown in Fig. 1 of the Enclosure, and indicate that the dielectric losses in alkali-free glasses have a

Card 1/3

L 51400-65

ACCESSION NR: AP5010703

resonant character at microwave frequencies. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Nauchno-issledovatel'skiy institut elektrovakuumnogo stekla, Moscow (Scientific Research Institute of Electrovacuum Glass)

SUBMITTED: 19Aug64 ENCL: 01 SUB CODE: EM, MT

NR REF SOV: 003 OTHER: 005

Card 2/3

L 51400-65
ACCESSION NR: AP5010703 ENCLOSURE: 01

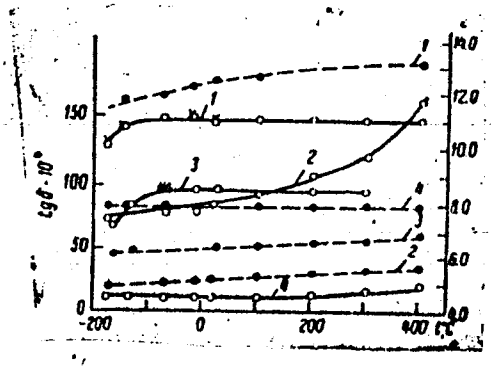


Fig. 1. Dependence of tanδ and ε of glasses on the temperature

1 - Glass 1, 2 - glass S49-2, 3 - glass 2, 4 - pyroceramic; solid line - tanδ, dashed - ε

Card 3/3

SMELYANSKAYA,G.A.; KOYFMAN,B.Ye.; SOKOVA,O.A.; GORONOVICH,D.I.

Field method for testing corundum ores of the Semiz-Bugu deposit.
Sov.geol. no.21:102-107 '47. (MLRA 8:8)
(Semiz-Bugu region--Corundum)

1. SHELYANSKAYA, M.

2. USSR (600)

4. Labor and Laboring Classes - Medical Care

7. Sanitorium at the factory. Sov.zhen No. 1 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

Smelyanskiy, A.S.

25(5) PHASE I BOOK EXPLOITATION

Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Kiyevskoye oblastnoye pravleniye

Mekhanizatsiya i avtomatizatsiya v mashinostroyenii; (sbornik statey) (Mechanization and Automation in Machine Manufacturing; Collection of Articles) Moscow, Mashgiz, 1959. 286 p. 8,000 copies printed.

Sponsoring Agency: Nauchno-tekhnicheskoye obshchestvo priborostroitel'noy promyshlennosti. Ukrainskoye respublikanskoye pravleniye.

Ed. of Publishing House: M.S. Soroka; Chief Ed. (Southern Division, Mashgiz): V.K. Serdyuk, Engineer; Editorial Board: M.M. Gul'ko, S.Sh. Zaslavskiy, A.Ya. Lopata, N.M. Lyuh, M.L. Orlikov, I.D. Feynerman, Ye.M. Khaymovich (Resp. Ed.), and S.I. Kharagergiyev.

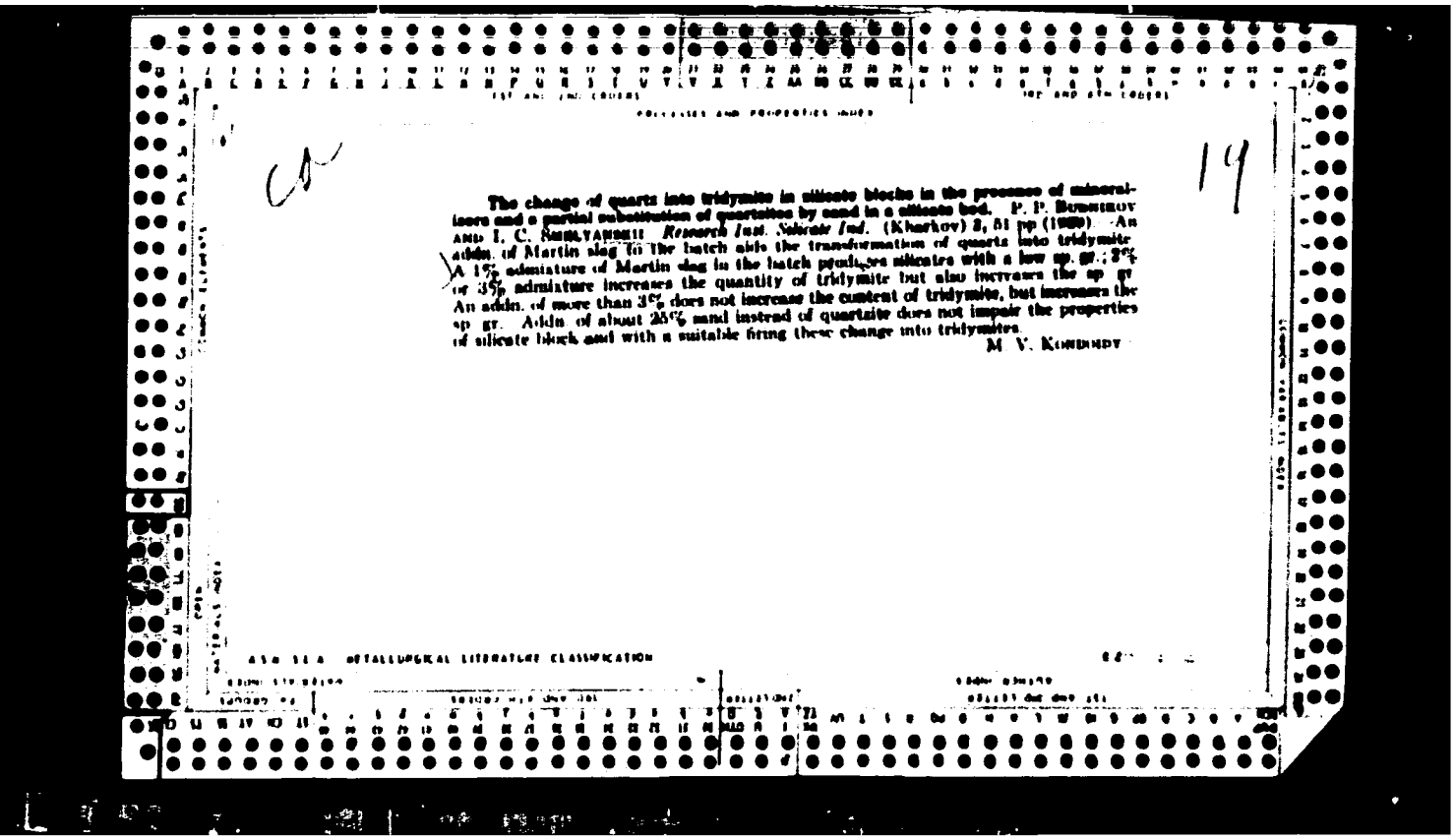
PURPOSE: This book is intended for engineering and technical personnel in machine and instrument-manufacturing plants and scientific research institutes.

COVERAGE: This book contains reports made by workers of machine and instrument-
manufacturing plants, scientific research institutes, and educational insti-
tutions at the 2nd Kiyev Scientific and Technical Conference devoted to
problems of mechanization and automation of production processes. The
Conference was sponsored by the Kiyev Oblast Administration of the NTO Mashprom
(Scientific and Technical Division of the Machine-Manufacturing Industry)
and the Ukrainian Republic Administration of the NTO Priborprom (Scientific
and Technical Division of the Instrument Manufacturing Industry). These
reports describe current problems encountered in automation of equipment,
technological and control operations, and progressive work practices in
manufacturing machines and instruments. I.I. Greben', S.M. Zaminskiy, A.G.
Ivakhnenko, V.L. Mesechnikov, M.G. Mosenzis, and A.M. Farber participated
in preparing the book. There are no references.

2 [illegible]

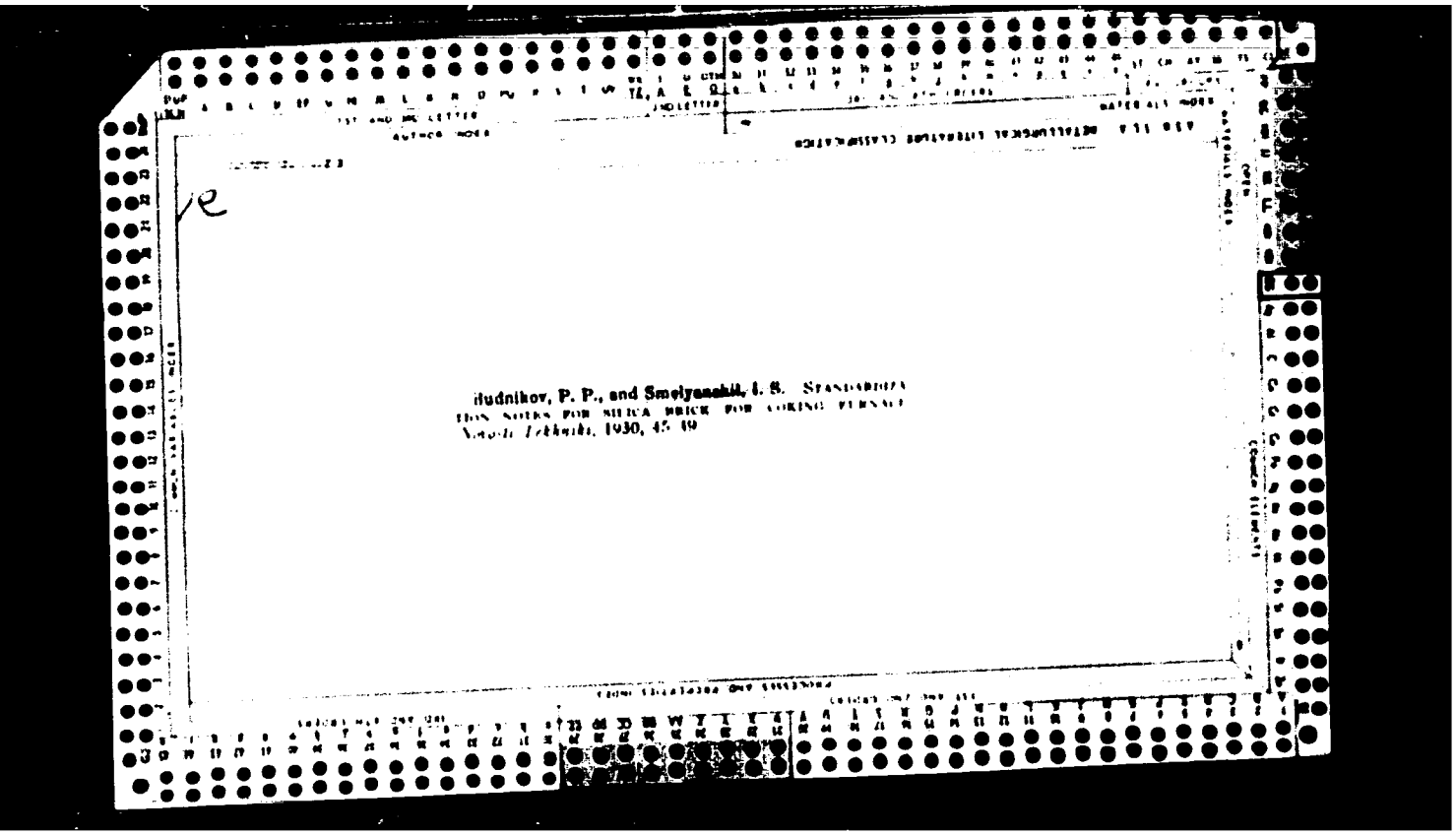
BLIZNYUKOV, Yuriy Nikolayevich; KARAKOZOV, Eduard Arkad'yevich; SMELYANSKIY, Fedor Andreyevich; SEROVA, Ye.I., vedushchiy red.; POLOSINA, A.S., tekhn.red.

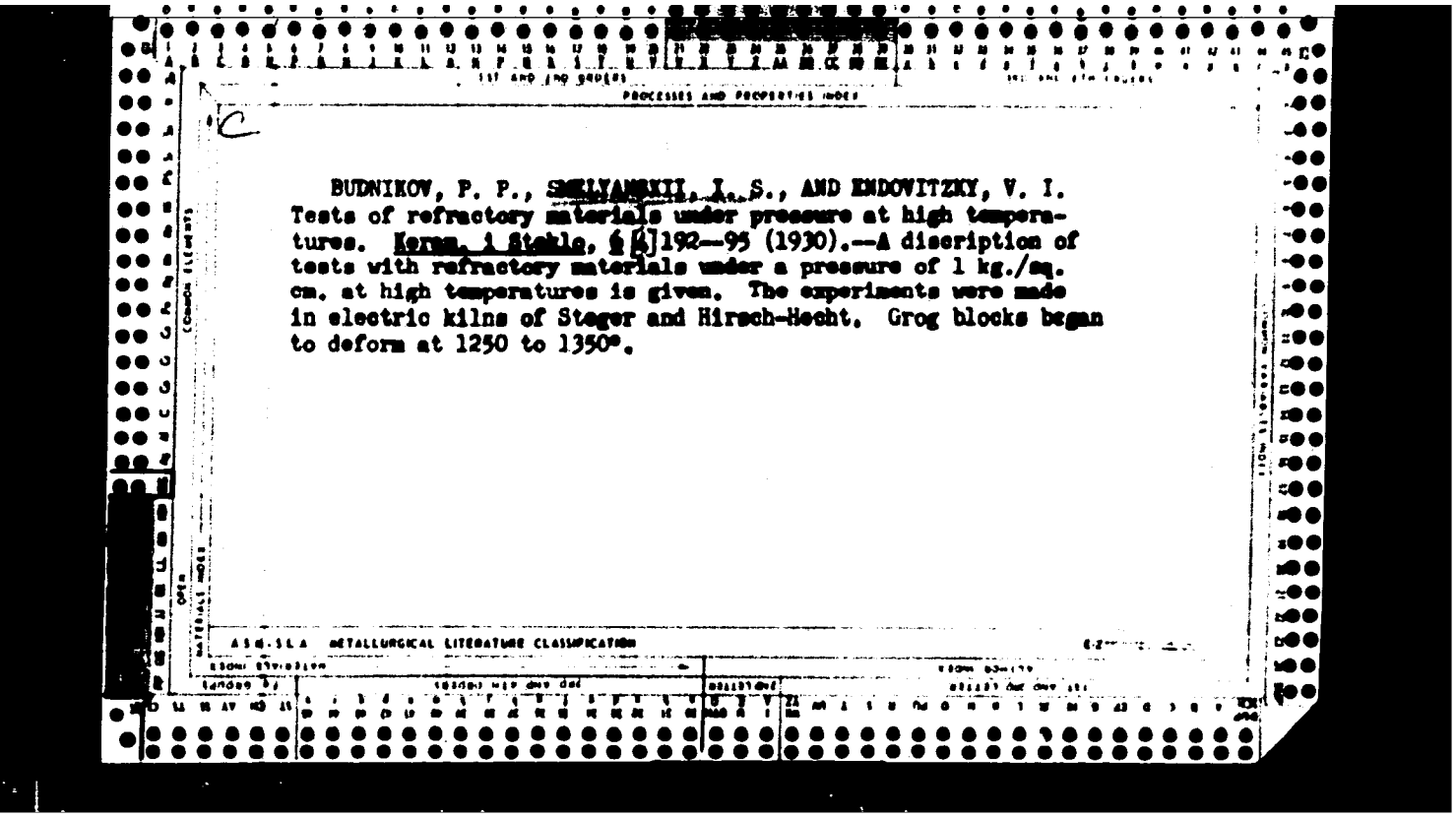
[Introducing new drilling equipment; practice of petroleum workers of the Chechen-Ingush A.S.S.R.] Vnedrenie novoi burovoi tekhniki; opyt neftianikov Checheno-Ingushskoi ASSR. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1959. 92 p. (MIRA 13:1)
(Chechen-Ingush A.S.S.R.--Oil well drilling--Equipment and supplies)



The change of quartz into tridymite in silicate blocks in the presence of mineralizers and a partial substitution of quartzites by sand in a silicate bed. P. P. BUDNIKOV AND I. C. SHALYAPIN. *Research Inst. Silicate Ind.* (Kharkov) 3, 51 pp (1939). An addn. of Martin slag to the batch aids the transformation of quartz into tridymite. A 1% admixture of Martin slag in the batch produces silicates with a low sp. gr.; 3% or 5% admixture increases the quantity of tridymite but also increases the sp. gr. An addn. of more than 3% does not increase the content of tridymite, but increases the sp. gr. Addn. of about 25% sand instead of quartzite does not impair the properties of silicate block and with a suitable firing these change into tridymites.

M. V. KONDRIEV





PROCESSES AND PROPERTIES INDEX

C

BUDNIKOV, P. P., SHELYANSKII, I. S., AND ENDOVITZKY, V. I.
Tests of refractory materials under pressure at high temperatures. Keram. i Stekla, 6 [5] 192—95 (1930).—A discription of tests with refractory materials under a pressure of 1 kg./sq. cm. at high temperatures is given. The experiments were made in electric kilns of Steger and Hirsch-Hecht. Grog blocks began to deform at 1250 to 1350°.

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

SMELYANSKII, I. S.

The tridymitization of quartz in silica brick in the presence of mineralizers and by partial replacing of quartzites by sand in the batches, for silica brick making. I. I. Budnikov and V. S. Smelyanskii. Trans. Ukrainian Sct. Research Inst. Silicate Ind. (U. S. S. R.) 15, 28(1931); J. Soc. Glass Tech. 17, 314-15A.--The Yasinovato-Avdeyevsky quartzites investigated have the following av. compn.: SiO_2 99.52%, Al_2O_3 1.65, Fe_2O_3 1.76, CaO 0.74, MgO traces, loss on ignition 0.39. The sp. gr. is 2.645 and m.p. 1750°. From 62 batches of these quartzites with different addns. silica bricks have been prepd. Conclusions: (1) The quartzites were of av. quality in comparison with pure cryst. and so-called amorphous quartzites. They were slowly transformed, so that to obtain 1st-grade silica bricks either the burning temp. should be high (1460-70°) maintained for 24-8 hrs., or the quartzites should be mixed with those easy of conversion. (2) of 3 mixts. with different granulometric compns. the most suitable had the following compn.: 10% grains from 5 to 2.5 mm., 40% grains from 2.5 to 1mm., and 50% from 1 mm. to dust. (3) the open-hearth slags undoubtedly promote the tridymitization of quartz and the obtaining of uniform, dense bricks with true and strong corners and edges (without holes and flaws). These properties are obtained by addn. of 1-3% of open-hearth slags. It is not reoommended to introduce into the batch more than 3% of open-hearth slags, as increase above this does not correspondingly increase the tridymitization of quartz. (4) Phosphorites of Isyum are excellent mineralizers, promoting the transformation of quartz into tridymite and the obtaining of a uniform dense body. The optimum quanity of this addn. is 2-3% of the wt. of the dry substances of the batch. (5) Water glass is a more active mineralizer than open-hearth slags and phosphorites, but it gives a less dense body. The optimu quanity is 1%. (6) Mn oxides promote the conversion of quartz into tridymite. (7) Coal ashes of the av. compn. SiO_2 37.10-49.45, Al_2O_3 38.00--

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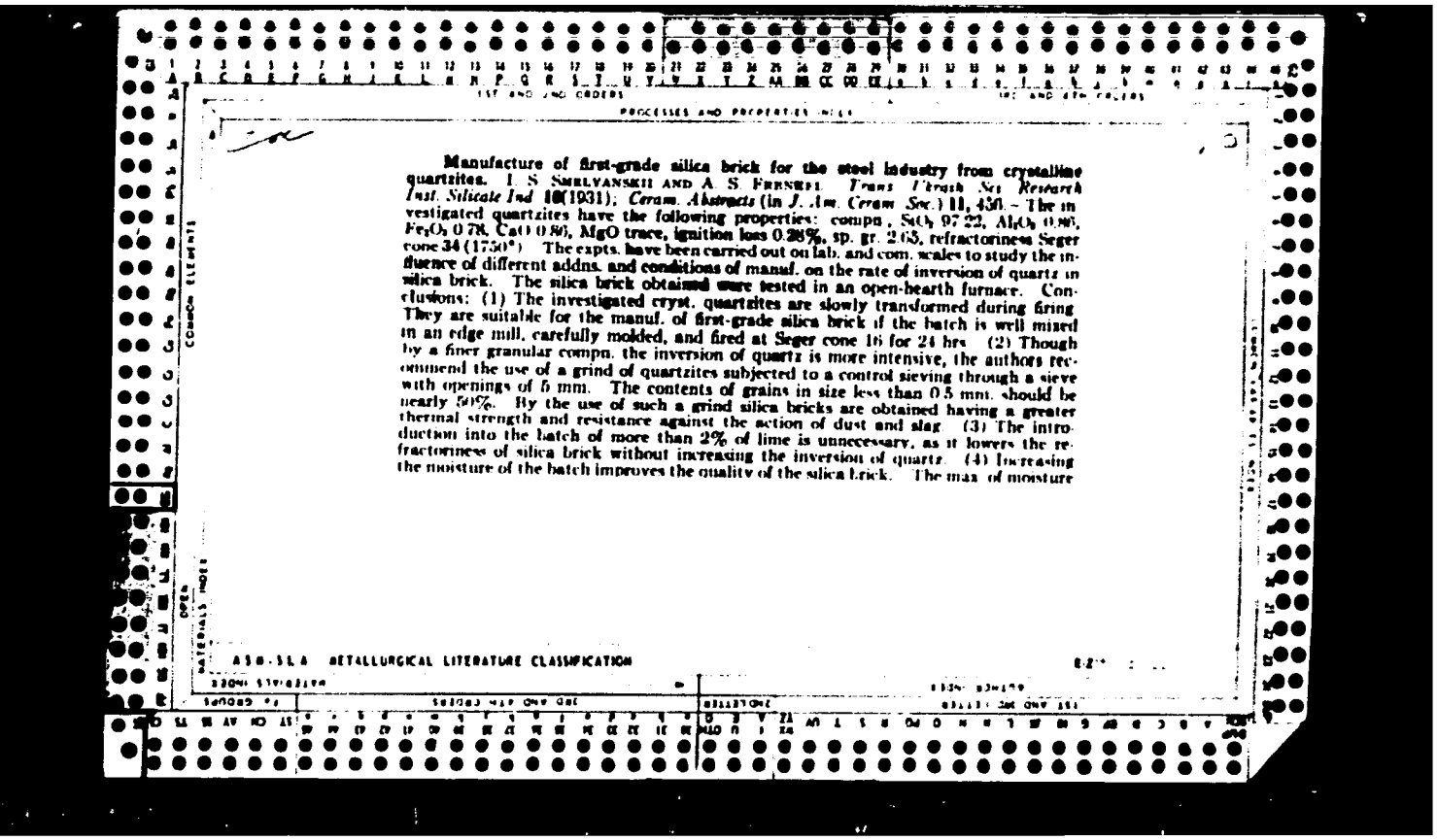
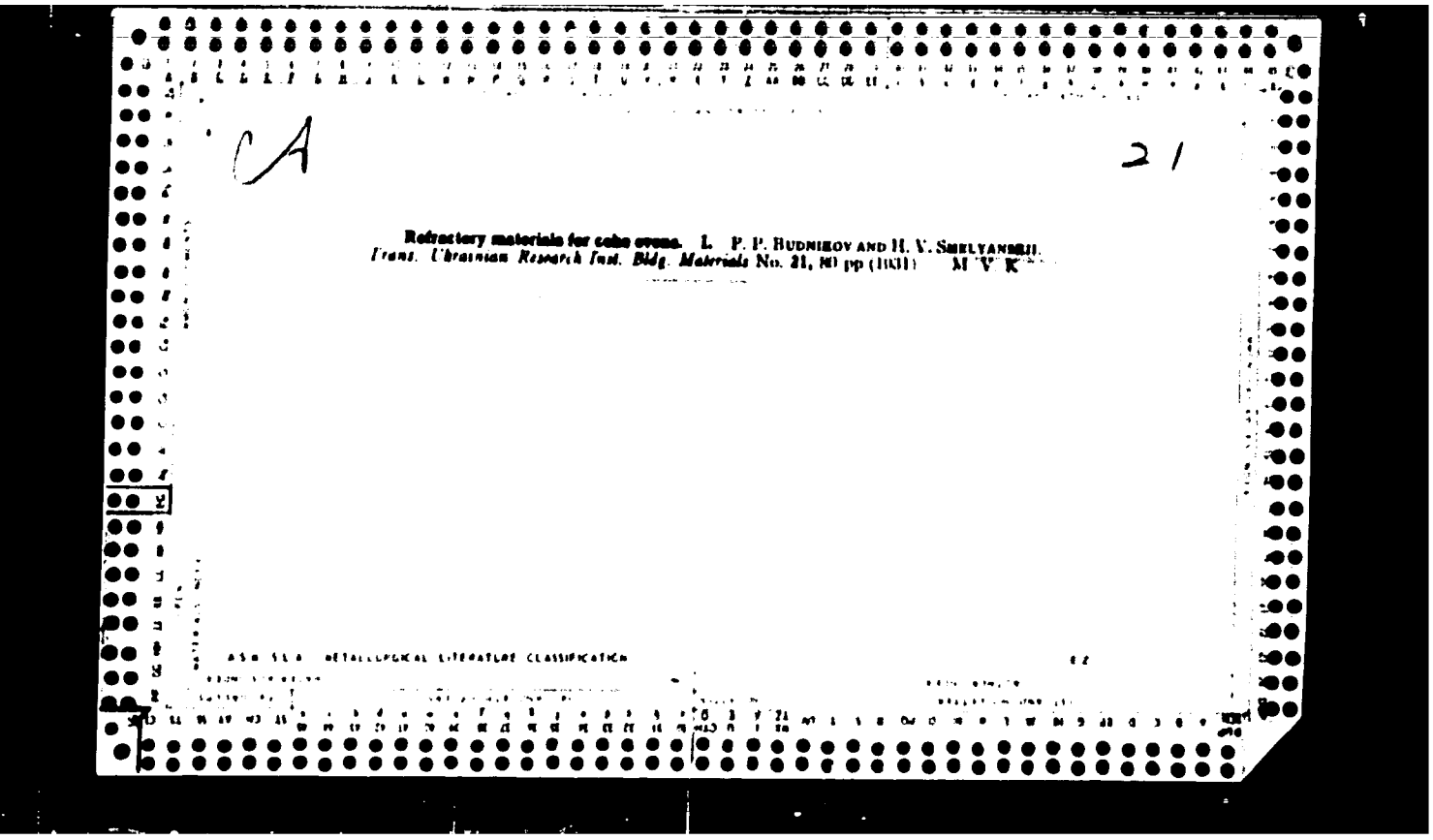


Manufacture of first-grade silica brick for the steel industry from crystalline quartzites. I. S. Shelvanskii and A. S. Frenkel. *Trans. Ukrain. Sci. Research Inst. Silicate Ind.* **10**(1931); *Ceram. Abstracts* (in *J. Am. Ceram. Soc.*) **11**, 450.—The investigated quartzites have the following properties: compn., SiO_2 97.22, Al_2O_3 0.86, Fe_2O_3 0.78, CaO 0.86, MgO trace, ignition loss 0.28%, sp. gr. 2.65, refractoriness Seger cone 34 (1750°). The expts. have been carried out on lab. and com. scales to study the influence of different addns. and conditions of manuf. on the rate of inversion of quartz in silica brick. The silica brick obtained were tested in an open-hearth furnace. Conclusions: (1) The investigated cryst. quartzites are slowly transformed during firing. They are suitable for the manuf. of first-grade silica brick if the batch is well mixed in an edge mill, carefully molded, and fired at Seger cone 16 for 24 hrs. (2) Though by a finer granular compn. the inversion of quartz is more intensive, the authors recommend the use of a grind of quartzites subjected to a control sieving through a sieve with openings of 5 mm. The contents of grains in size less than 0.5 mm. should be nearly 50%. By the use of such a grind silica bricks are obtained having a greater thermal strength and resistance against the action of dust and slag. (3) The introduction into the batch of more than 2% of lime is unnecessary, as it lowers the refractoriness of silica brick without increasing the inversion of quartz. (4) Increasing the moisture of the batch improves the quality of the silica brick. The max. of moisture

(by hand molding) should be limited by the ability to retain the regularity of shape of the green brick. (5) The addn. of 25% of sand does not lower the quality of the silica brick. (6) The addn. of previously fired quartzites in the quantity of 30 to 50% increases, in some measure, the inversion of quartz. For the manuf. of brick not of intricate shapes or great size, however, such an addn. is unreasonable from the economic point of view and only complicates the process of manuf. (7) The blast furnace throat dust is a good mineralizer for the inversion of quartz into tridymite. By its introduction into the batch, if the other conditions remain const., well tridymitized silica brick are obtained. The optimum quantity of this addn. is 2%. One advantage of this mineralizer is that being a dust it need not be ground. Its disadvantage is its fluctuating chem. compn. depending on the phys. state of the materials charged in the blast furnace and of the work of the furnace. (8) Well tridymitized silica brick are obtained with welding slags as mineralizers. The optimum quantity of this addn. is 2%. Their advantage is that nearly all of the Fe present is in the form of suboxide. The disadvantage is the necessity of fine grinding complicated by their high hardness. (9) The addn. of molasses does not influence the inversion of quartz, although its introduction in the quantity of 0.25% is desirable, as it considerably decreases the waste of green brick and aids in retaining true corners and edges of the brick. (10) The addn. of reducing agents such as coke and charcoal considerably promotes the inversion of quartz into tridymite; especially good results are obtained with charcoal. The introduction of these addns. (when ferruginous mineralizers are used) is also necessary to increase the porosity of the silica brick, its thermal strength being influenced. The quantity of these addns. should be from 1.5 to 2.0%. An increase in their quantity increases the difficulty of molding.

G. G.



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Refractory materials for coke ovens. L. P. P. Budnikov and H. V. Shelyanskii. *Trans. Ukrainian Research Inst. Bldg. Materials* No. 21, 80 pp (1931). M. V. K.

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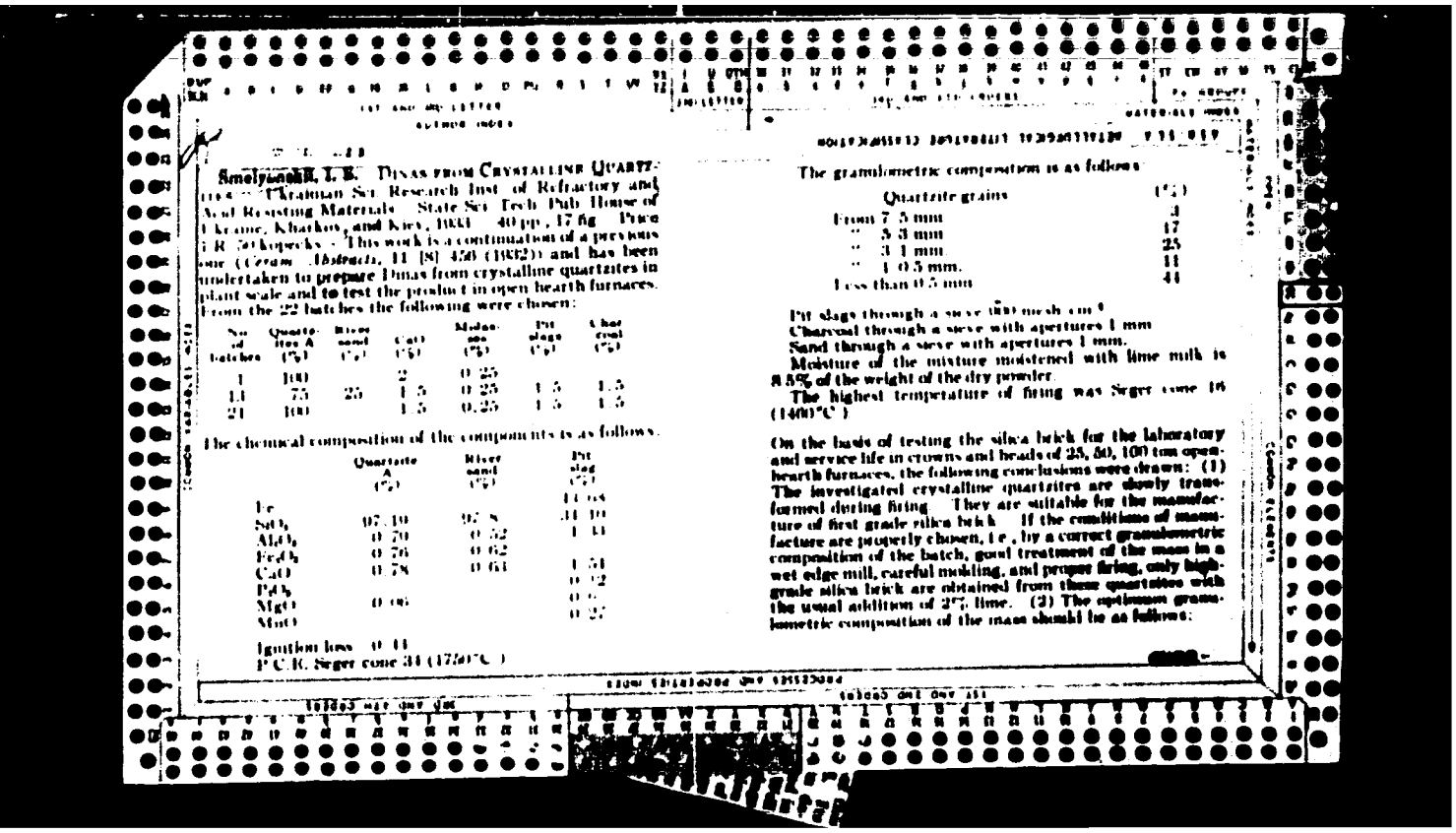


Amelyushkin, I. E. Dinas from Crystalline Quartz-[illegible] Ukrainian Sci. Research Inst. of Refractory and Acid Resisting Materials. State Sci. Tech. Pub. House of Ukraine, Kharkov, and Kiev, 1933. 40 pp., 17 fig. Price 1 R. 70 kopecks. - This work is a continuation of a previous one (*Ceram. Abstracts*, 11 [8] 450 (1932)) and has been undertaken to prepare Dinas from crystalline quartzites in plant scale and to test the product in open hearth furnaces. From the 22 batches the following were chosen:

No. of batches	Quartzite A (%)	River sand (%)	CaO (%)	Moisture (%)	Pit slags (%)	Clay coal (%)
1	100		2	0.25		
11	75	25	1.5	0.25	1.5	1.5
21	100		1.5	0.25	1.5	1.5

The chemical composition of the components is as follows:

	Quartzite A (%)	River sand (%)	Pit slag (%)
Ig.			11.05
SiO_2	97.10	97.8	44.10
Al_2O_3	0.70	0.52	1.11
Fe_2O_3	0.76	0.62	
CaO	0.78	0.61	1.51
P_2O_5			0.12
MgO	0.06		0.6
MnO			0.27

Ignition loss 0.41
P.C.E. Seger cone 34 (1750°C.)

The granulometric composition is as follows:

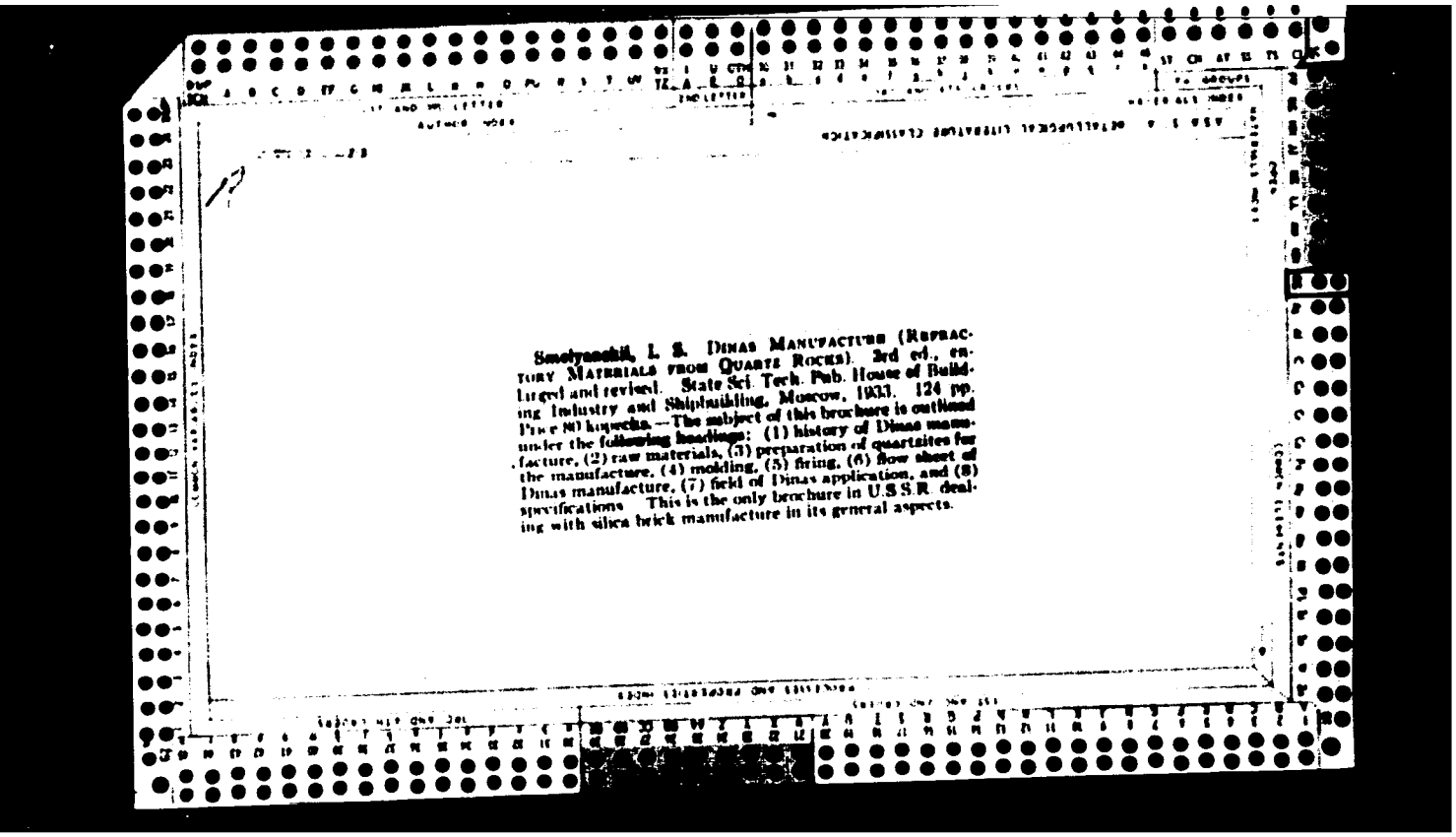
Quartzite grains	(%)
From 7.5 mm	4
" 5.3 mm	17
" 3.1 mm	25
" 1.05 mm.	11
Less than 0.5 mm	44

Pit slags through a sieve (80) mesh cm.²
Charcoal through a sieve with apertures 1 mm.
Sand through a sieve with apertures 1 mm.
Moisture of the mixture moistened with lime milk is 8.5% of the weight of the dry powder.
The highest temperature of firing was Seger cone 16 (1460°C.)

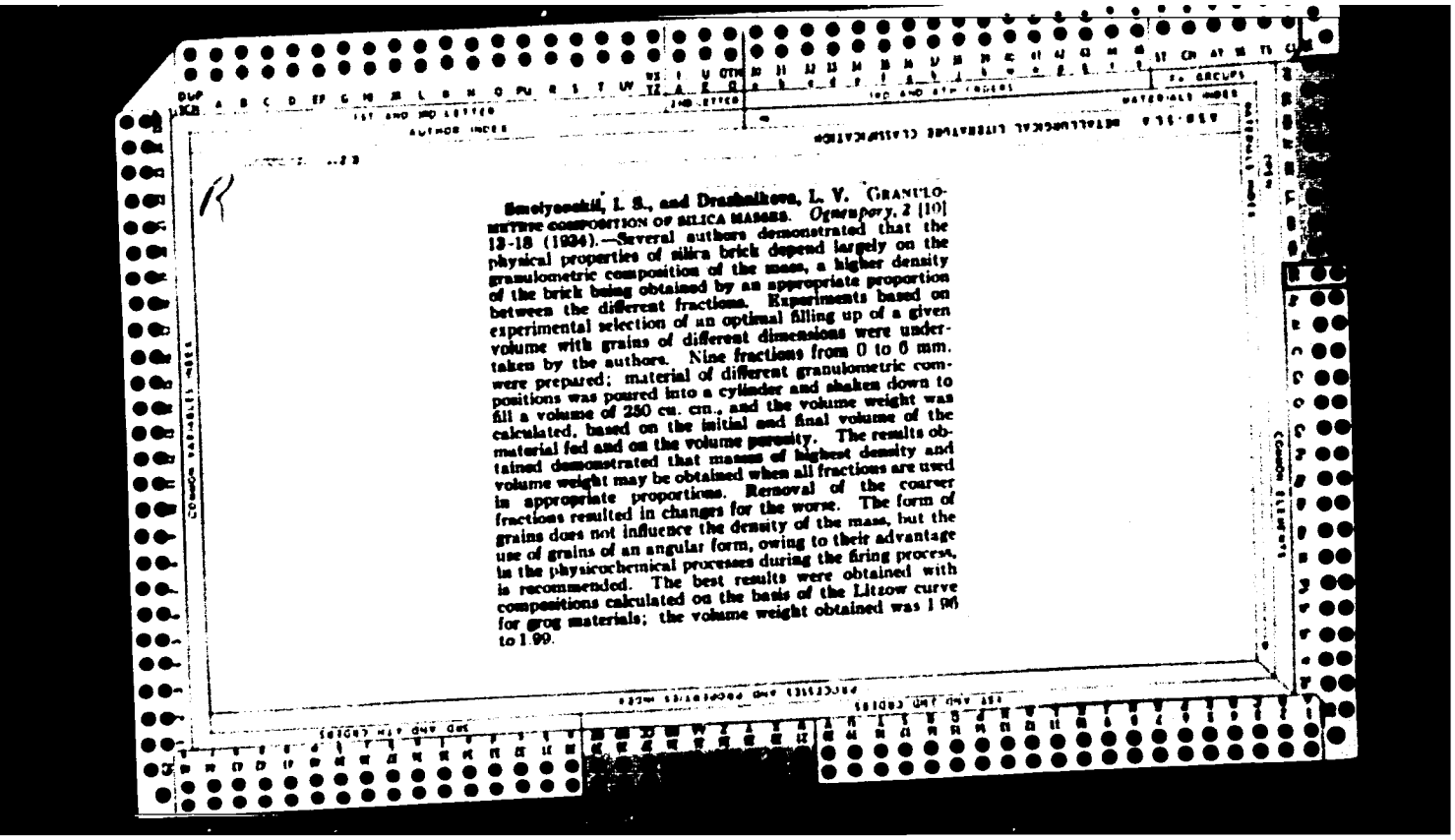
On the basis of testing the silica brick for the laboratory and service life in crowns and heads of 25, 50, 100 ton open-hearth furnaces, the following conclusions were drawn: (1) The investigated crystalline quartzites are slowly transformed during firing. They are suitable for the manufacture of first grade silica brick. If the conditions of manufacture are properly chosen, i.e., by a correct granulometric composition of the batch, good treatment of the mass in a wet edge mill, careful molding, and proper firing, only high-grade silica brick are obtained from these quartzites with the usual addition of 2% lime. (2) The optimum granulometric composition of the mass should be as follows:

Grains from	(%)
5-3 mm	6-8
3-1 mm	20-25
1-0.5 mm	15-20
0.5 mm	50-55

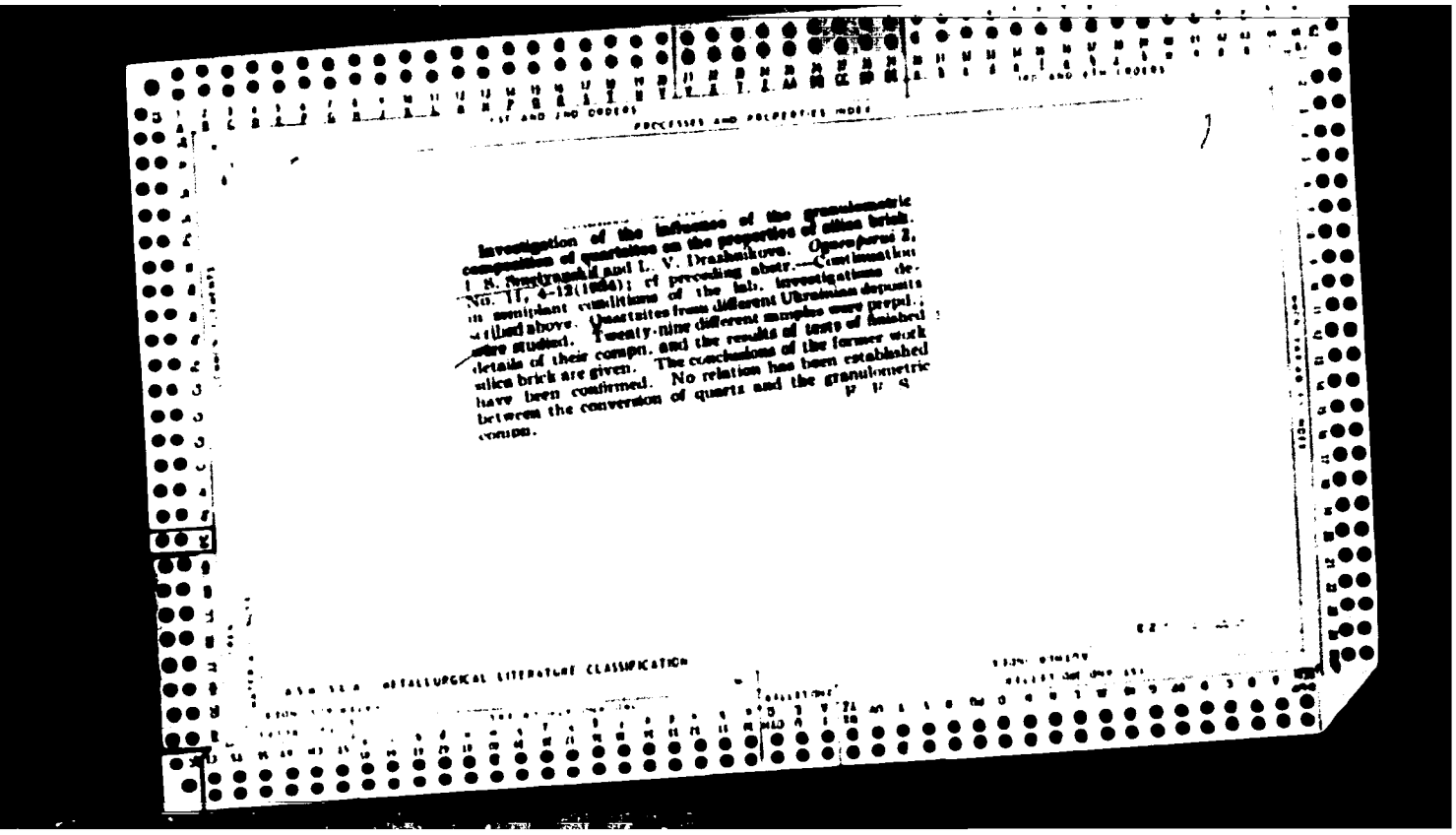
To increase the per cent of yield by firing silica brick without flaws and cracks it is necessary to prevent the introduction into the mass of grains greater than 5 mm. It is necessary to introduce into the batch 15 to 25% of broken silica brick when Dinas of great size is manufactured. Special attention should be given to the good quality of lime. Lime milk should not contain particles of unslaked lime. There should be about 2 to 2.5% of free lime in the mass. The green brick when introduced into the furnace should not contain more than 1% moisture. (3) The addition of 0.25 to 0.125% molasses increases the mechanical strength of the green brick and lowers the waste. (4) The introduction in the Dinas batch of 25% quartz sand considerably eases the molding of the Dinas green brick and does not lower the quality of Dinas. (5) An increased moisture of the mass improves the quality of Dinas considerably. The amount of moisture is limited by the possibility of the green brick losing their regular shape. (6) Pit slags ("welding" slags) are undoubtedly excellent mineralizers, promoting a more definite crystallization in Dinas of lamellate twins of tridymite; they should be finely ground and carefully mixed with the quartzite powder. If the last indication is not taken into consideration the slags promote the formation of places (bits) with a lowered melting temperature. The optimum quantity of this addition is 1.5 to 2%. With the addition of pit slags there should be introduced into the batch about 1.5% coke dust or, still better, the same quantity of powdered charcoal as a reducing agent and to increase the porosity and thermal strength of Dinas. Dinas which contains 1.5% pit slags and 1.5% charcoal, i.e., the so-called black Dinas (often called brown Dinas), has a higher thermal strength than the ordinary white Dinas in firing and cooling time (during manufacture) and in its service in open-hearth furnaces. The disadvantage of black Dinas at the temperatures in open hearth furnaces is its somewhat decreased refractoriness. (7) For firing high grade Dinas from the investigated crystalline quartzites it is necessary to bring the firing temperature to Seger cone 16 and maintain this temperature about 10 hr. There is no necessity of raising the firing temperature higher than Seger cone 16 and this is not recommended because of the danger of formation of sharp flame and increase in yield of Dinas with flaws. (8) (a) Dinas made from batch No. 1 is somewhat more stable than the ordinary Dinas from amorphous quartzites; (b) Dinas from batch No. 21, used in the crowns of open-hearth furnaces, is nearly as stable as Dinas of batch No. 1 and plant Dinas from amorphous quartzites, but in the heads of open hearth furnaces it is somewhat less stable because of its decreased refractoriness; (c) Dinas from batch No. 13 used in crowns of open-hearth



Smolyanskii, L. S. Dinas Manufacture (Refractory Materials from Quartz Rocks). 3rd ed., enlarged and revised. State Sci. Tech. Pub. House of Building Industry and Shipbuilding, Moscow, 1933. 124 pp. Price 80 kopecks.—The subject of this brochure is outlined under the following headings: (1) history of Dinas manufacture, (2) raw materials, (3) preparation of quartzites for the manufacture, (4) molding, (5) firing, (6) flow sheet of Dinas manufacture, (7) field of Dinas application, and (8) specifications. This is the only brochure in U.S.S.R. dealing with silica brick manufacture in its general aspects.

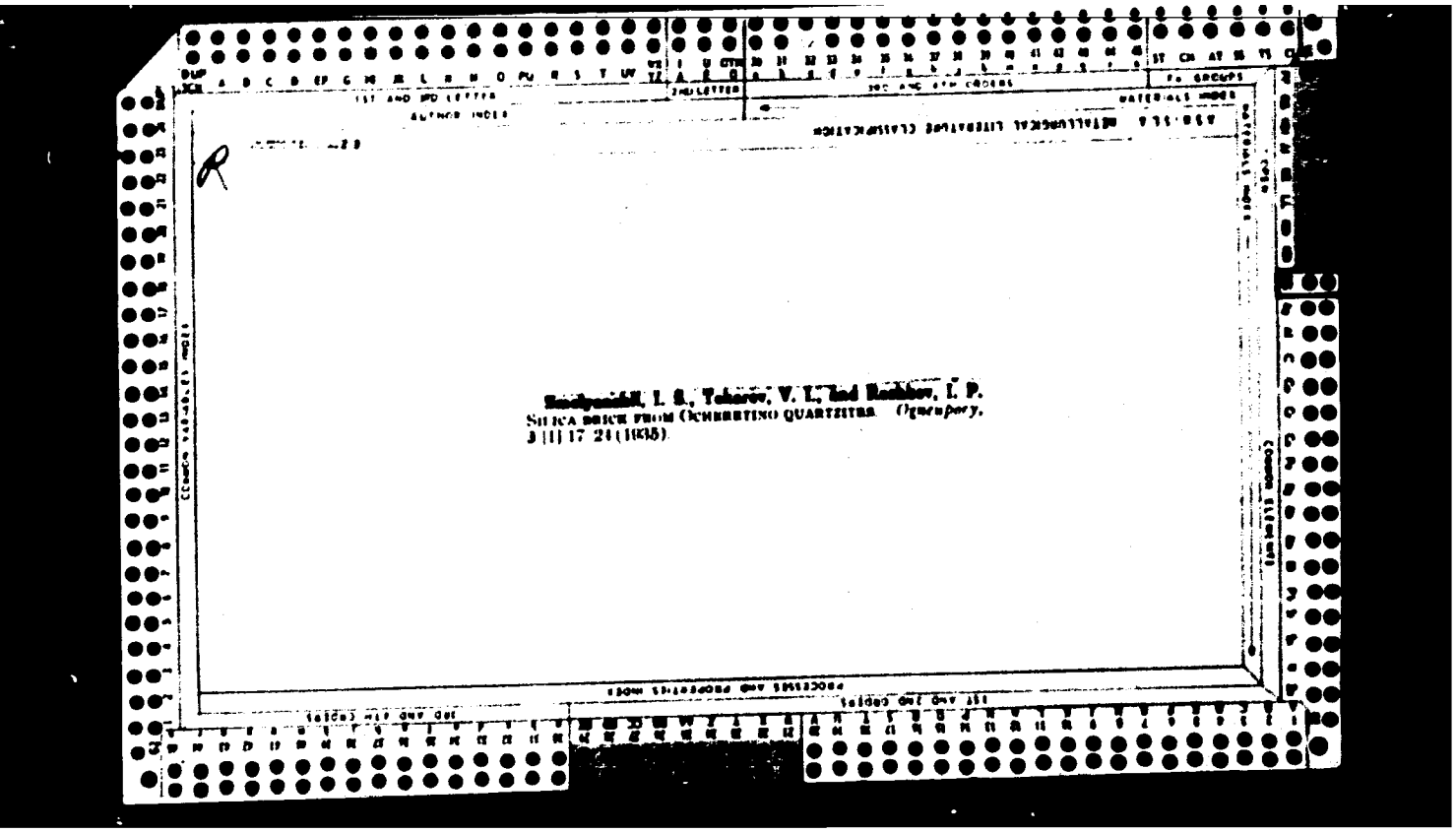


Smolyaninkii, I. S., and Drashnikova, L. V. GRANULOMETRIC COMPOSITION OF SILICA MASSES. *Ogneupory*, 2 [10] 13-18 (1934).—Several authors demonstrated that the physical properties of silica brick depend largely on the granulometric composition of the mass, a higher density of the brick being obtained by an appropriate proportion between the different fractions. Experiments based on experimental selection of an optimal filling up of a given volume with grains of different dimensions were undertaken by the authors. Nine fractions from 0 to 6 mm. were prepared; material of different granulometric compositions was poured into a cylinder and shaken down to fill a volume of 250 cu. cm., and the volume weight was calculated, based on the initial and final volume of the material fed and on the volume porosity. The results obtained demonstrated that masses of highest density and volume weight may be obtained when all fractions are used in appropriate proportions. Removal of the coarser fractions resulted in changes for the worse. The form of grains does not influence the density of the mass, but the use of grains of an angular form, owing to their advantage in the physicochemical processes during the firing process, is recommended. The best results were obtained with compositions calculated on the basis of the Litzow curve for grog materials; the volume weight obtained was 1.96 to 1.99.

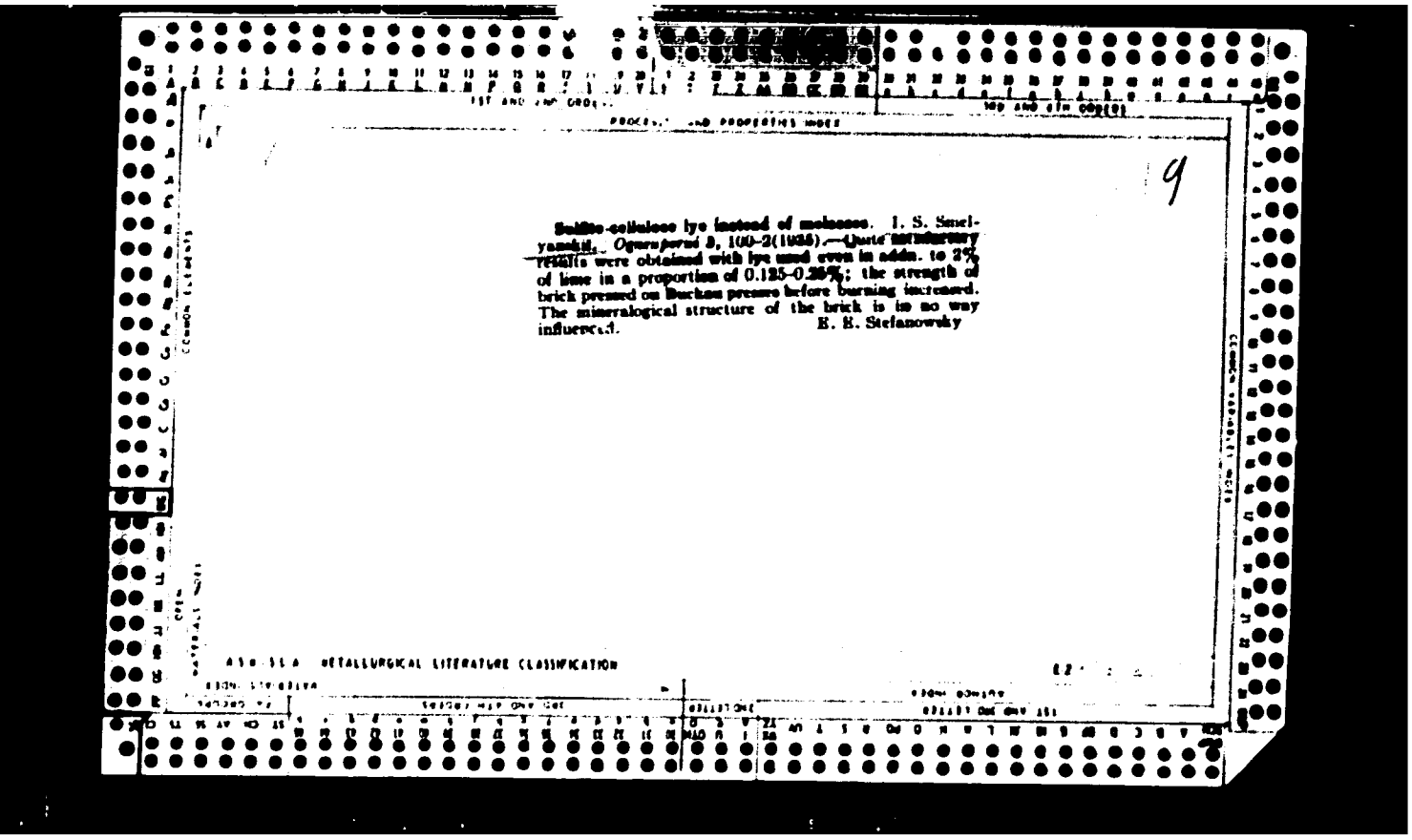


Investigation of the influence of the granulometric composition of quartzites on the properties of silica brick. I. S. Nastyrazhskii and L. V. Drashnikova. *Ogneupory* 21, No. 11, 4-12(1956); cf preceding abstr.—Continuation of investigations of the lab. investigations described above. Quartzites from different Ukrainian deposits were studied. Twenty-nine different samples were prepd.; details of their compn. and the results of tests of finished silica brick are given. The conclusions of the former work have been confirmed. No relation has been established between the conversion of quartz and the granulometric compn.

Smolyanskii, I. S. Shokshino quartzites. *Ogneupory*, 2 [12] X 14 (1934). The possibility of producing silica brick from quartzites of the Shokshino deposits (Carelia) is discussed. The chemical composition of these quartzites is as follows: SiO_2 96.88 to 97.21, Al_2O_3 1.00 to 1.41, Fe_2O_3 0.40 to 0.83, CaO 0.04 to 0.32, MgO traces to 0.17, K_2O 0.32 to 0.38, ignition loss 0.34 to 0.44. Investigations have been undertaken by the Leningrad Institute of Chemical Technology and the Ukrainian Refractories Institute. The positive results of the former are being criticized.



[illegible], I. S., Tokarev, V. I., and [illegible], I. P.
SILICA BRICK FROM CHERBETINO QUARTZITES. *Ogneupory.*
3 [1] 17-24 (1935).



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Sulfite-cellulose lye instead of molasses. I. S. Smelyanskii. *Ogneupory* 3, 100-2(1935).—Quartz refractory materials were obtained with lye used even in addn. to 2% of lime in a proportion of 0.125–0.25%; the strength of brick pressed on Buchan presses before burning increased. The mineralogical structure of the brick is in no way influenced. E. B. Stefanovsky

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PROCESSES AND PROPERTIES INDEX

Partial replacement of quartzites by sand for the production of silica brick. I. S. Smelyanskii, V. I. Tokarev and I. P. Rozhkov. Ogneupory 3, 103 9(1938).
R. K. Stefanowsky

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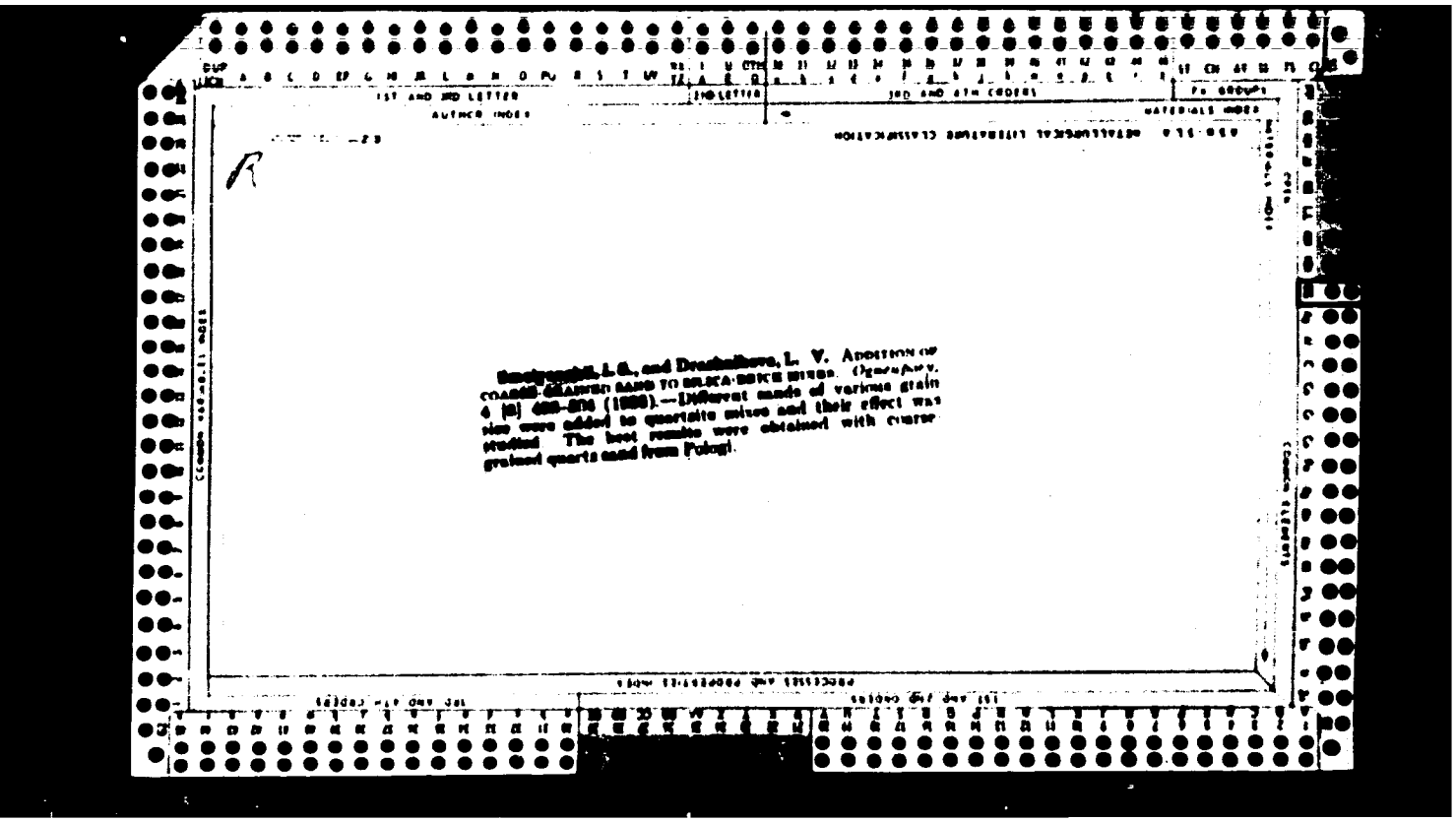
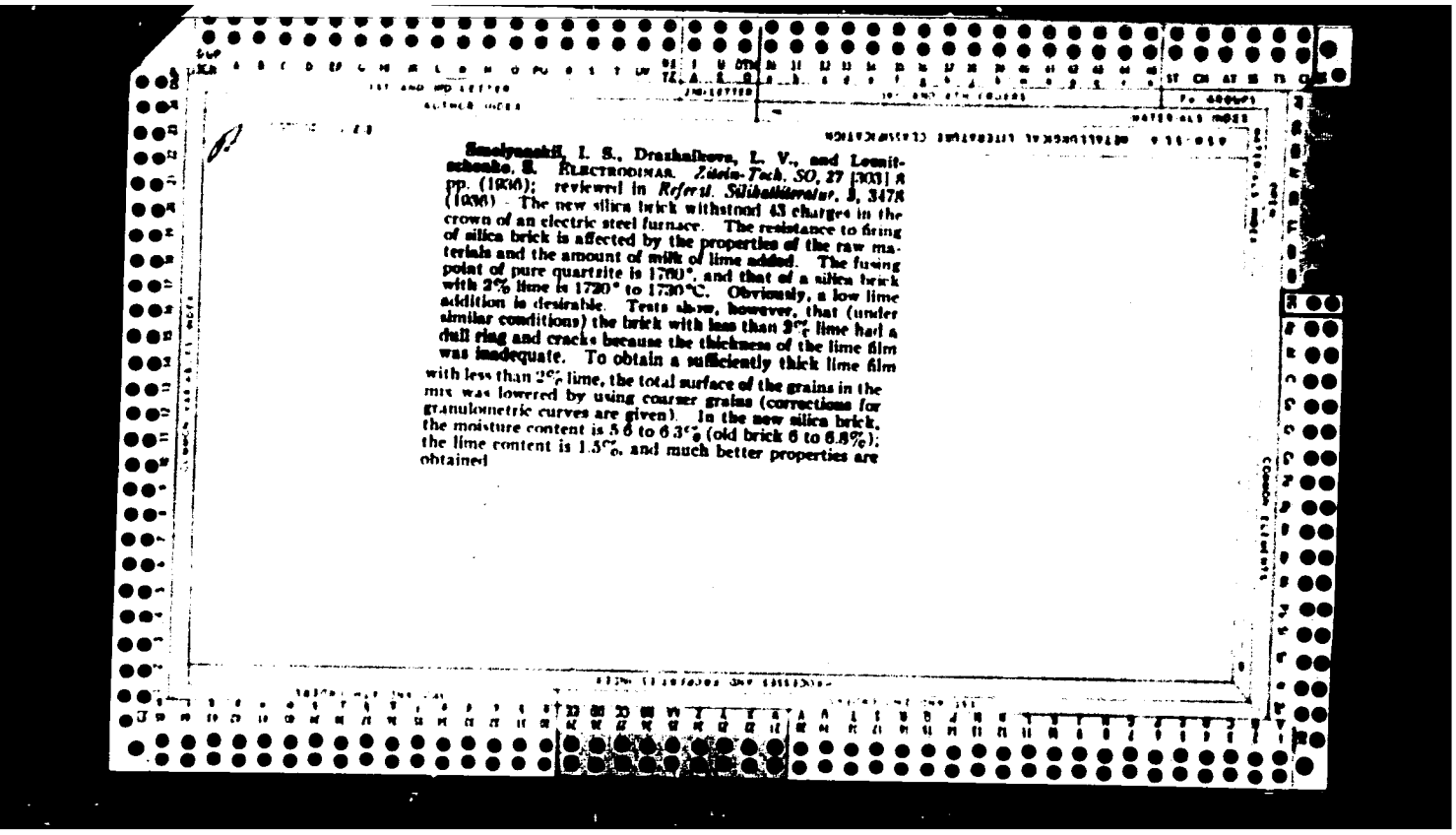
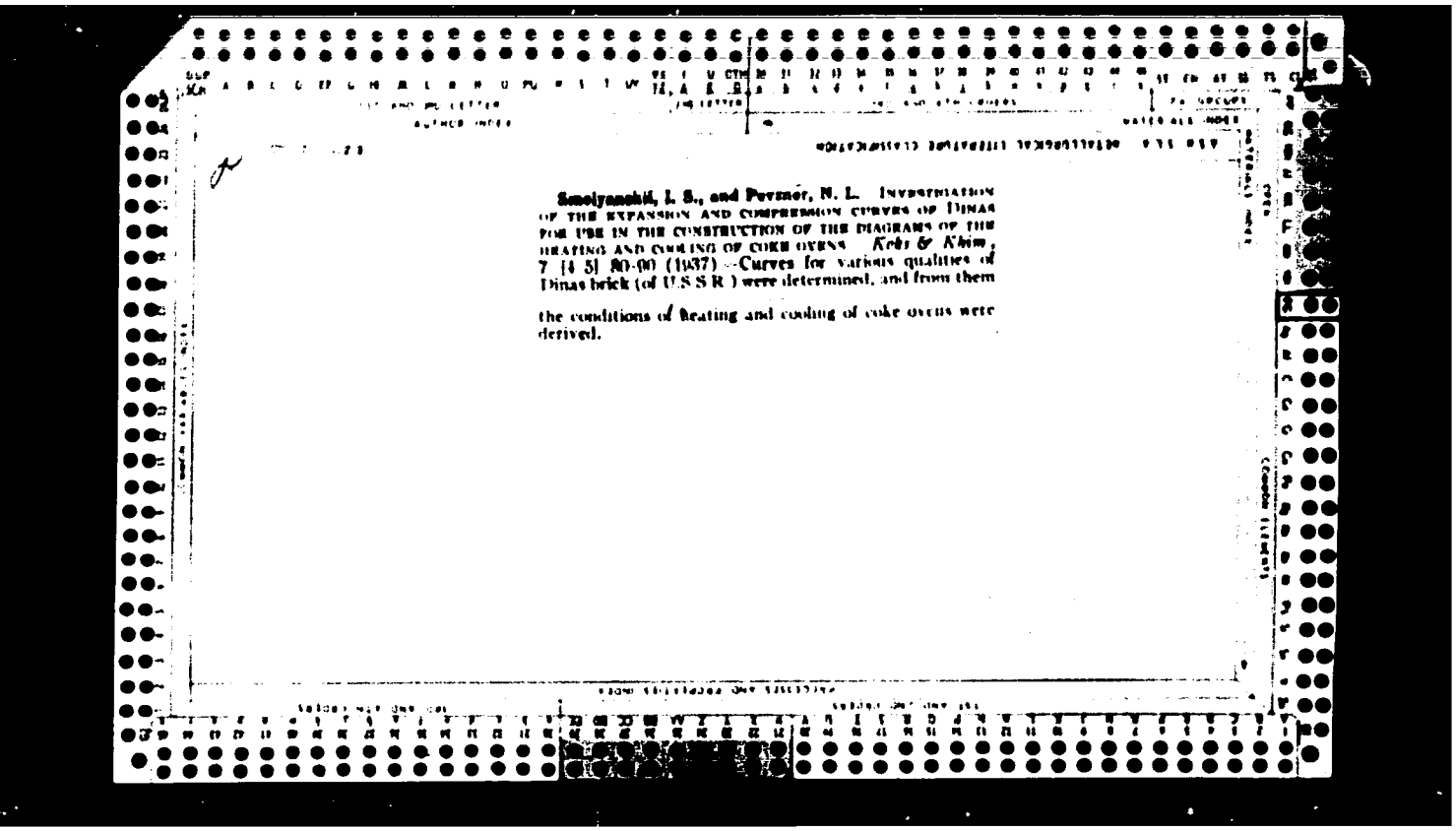


[illegible], L. S., and Dreshchinova, L. V. [illegible] COARSE GRAINED SAND TO SILICA-BRICK MIXES. [illegible] 6 [8] 468-476 (1958).—Different sands of various grain size were added to quartzite mixes and their effect was studied. The best results were obtained with coarse grained quartz sand from Pukovi.

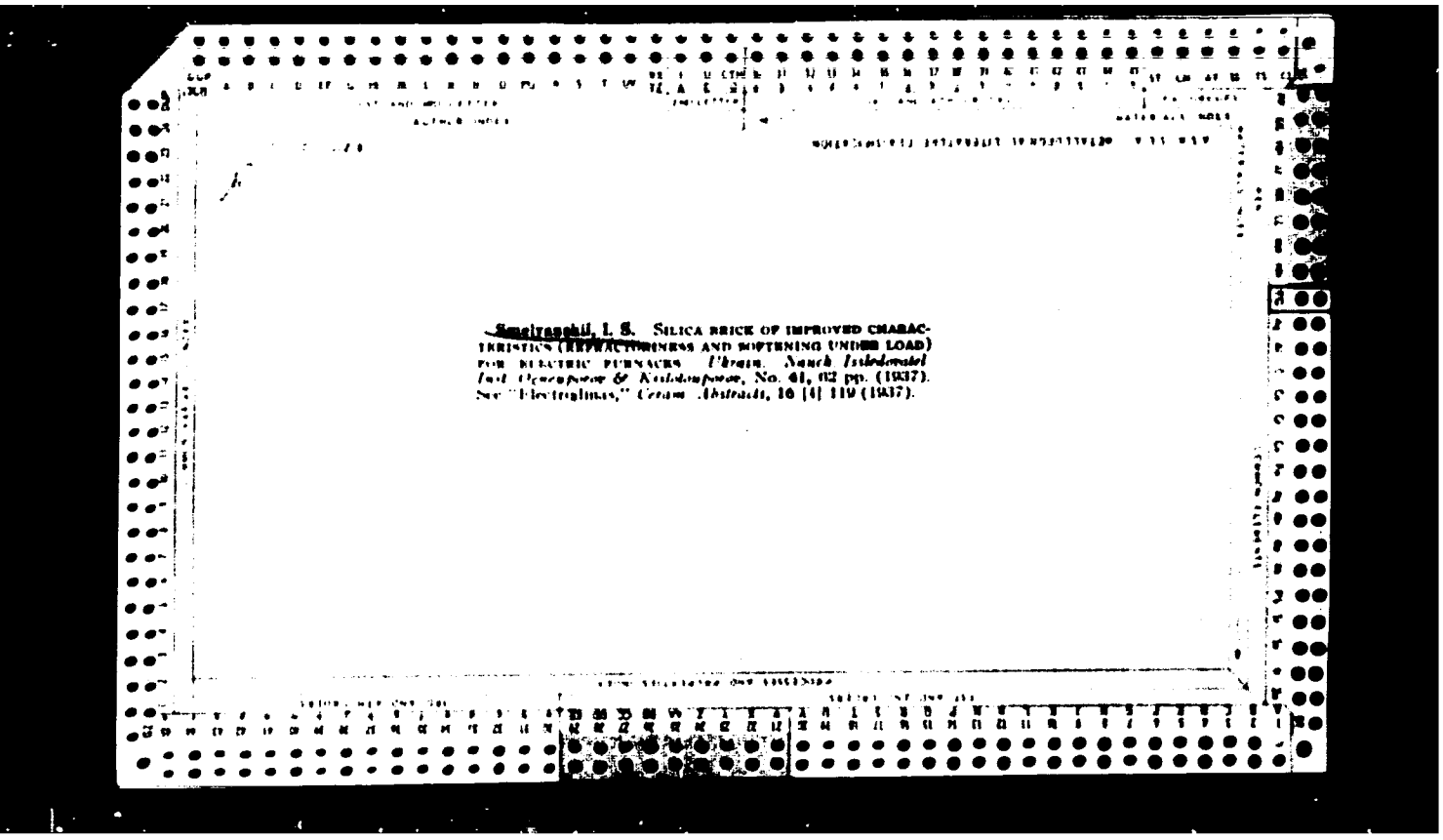


Smolyanskii, I. S., Drozhalkova, L. V., and Lesnitschenko, S. ELECTRODINAS. *Zieleu-Tech. SO*, 27 [303] 8 pp. (1956); reviewed in *Referat. Silikattechnik*, 3, 3478 (1956). The new silica brick withstood 45 charges in the crown of an electric steel furnace. The resistance to firing of silica brick is affected by the properties of the raw materials and the amount of milk of lime added. The fusing point of pure quartzite is 1760°, and that of a silica brick with 2% lime is 1720° to 1730°C. Obviously, a low lime addition is desirable. Tests show, however, that (under similar conditions) the brick with less than 2% lime had a dull ring and cracks because the thickness of the lime film was inadequate. To obtain a sufficiently thick lime film with less than 2% lime, the total surface of the grains in the mix was lowered by using coarser grains (corrections for granulometric curves are given). In the new silica brick, the moisture content is 5.6 to 6.3% (old brick 6 to 6.8%); the lime content is 1.5%, and much better properties are obtained

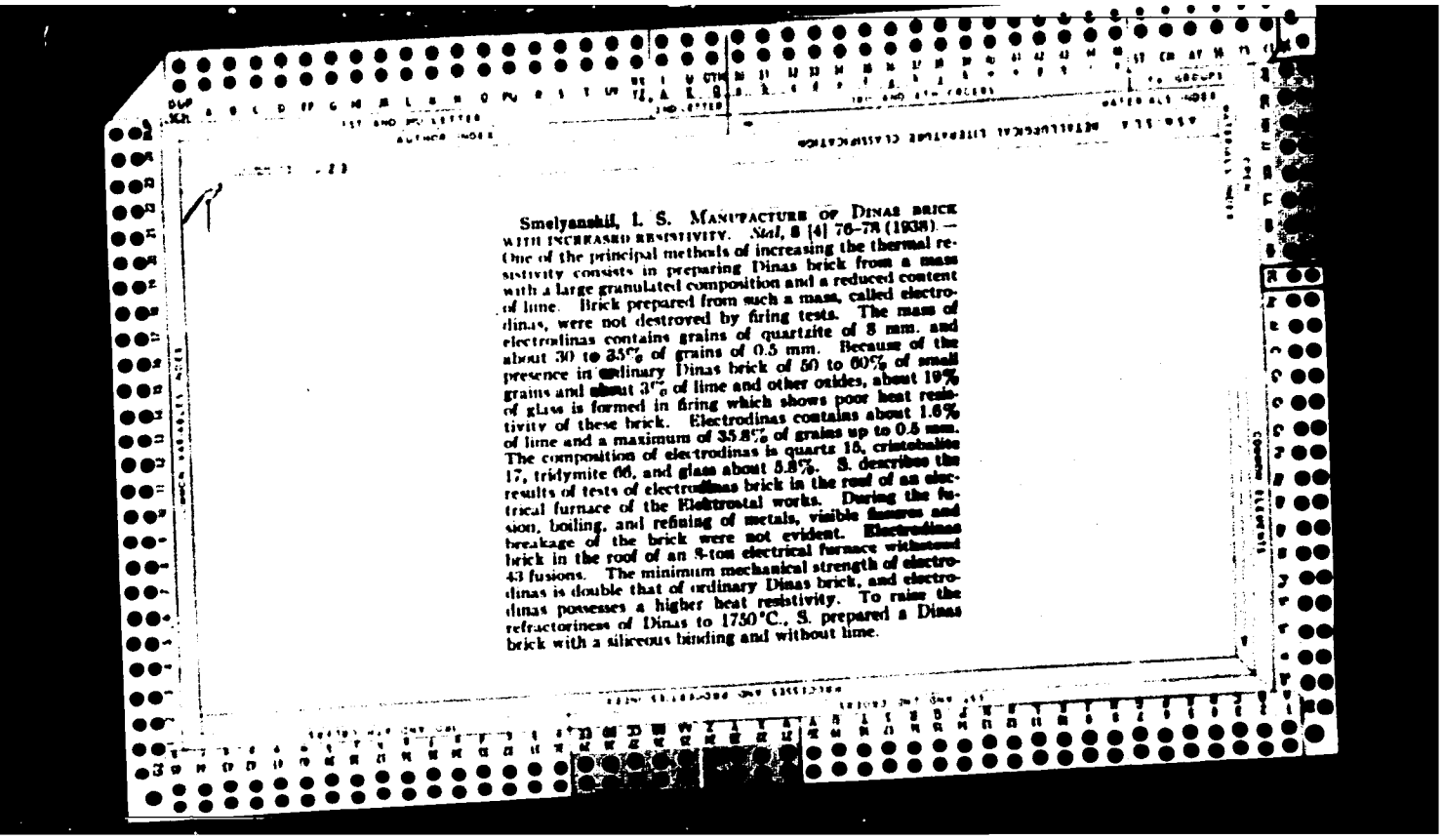


Smolyanskiĭ, L. S., and Perzner, N. L. INVESTIGATION OF THE EXPANSION AND COMPRESSION CURVES OF DINAS FOR USE IN THE CONSTRUCTION OF THE DIAGRAMS OF THE HEATING AND COOLING OF COKE OVENS *Koks & Khim*, 7 [4-5] 80-90 (1937) --Curves for various qualities of Dinas brick (of U.S.S.R.) were determined, and from them the conditions of heating and cooling of coke ovens were derived.

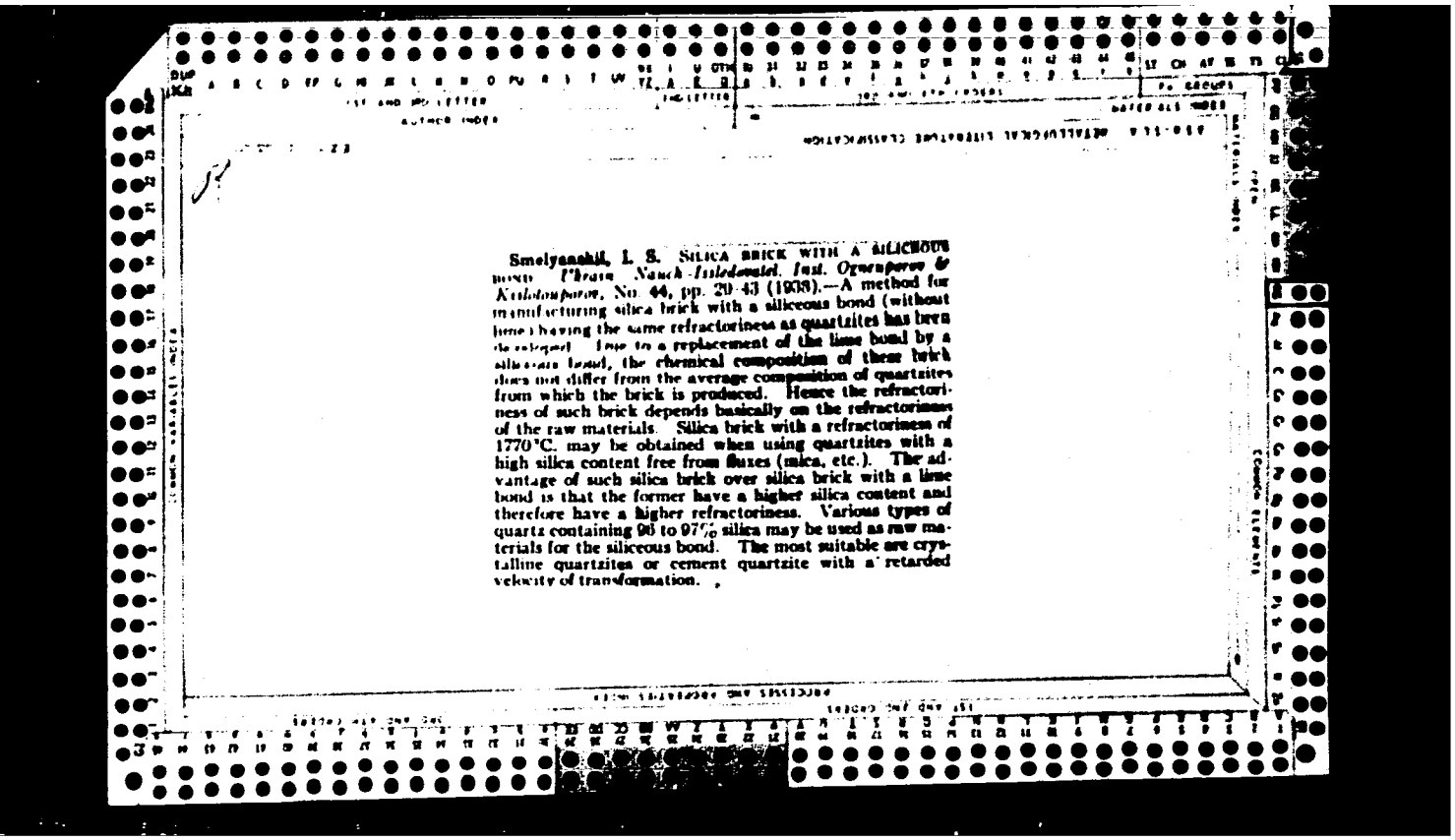
Smolyanskii, I. S., Drachnikova, L. V., and Gut, Ye. SILICA BRICK. *Zavo-Tek* SO, 27 [1270] 6 pp. (1937) Attempts to improve the properties of silica brick for open hearth furnaces (because the melting point of silica brick lies near the working temperature of these furnaces) are described. Quartz powder with water and molasses was used as a bond for the brick. Properties of the brick are as follows: refractoriness, 1780° to 1780°; beginning of softening under pressure, 1660° or 1670°; specific gravity, 2.40; porosity, 16.8 to 18.7%; expansion on heating, 3%; cold resistance to pressure, 480 to 885 kg./sq. cm.; and afterexpansion on heating to 1480°, 0.4 to 0.7%. The microstructure showed 33 to 68 tridymite, 20 to 45 cristobalite, and 12 to 18% quartz.



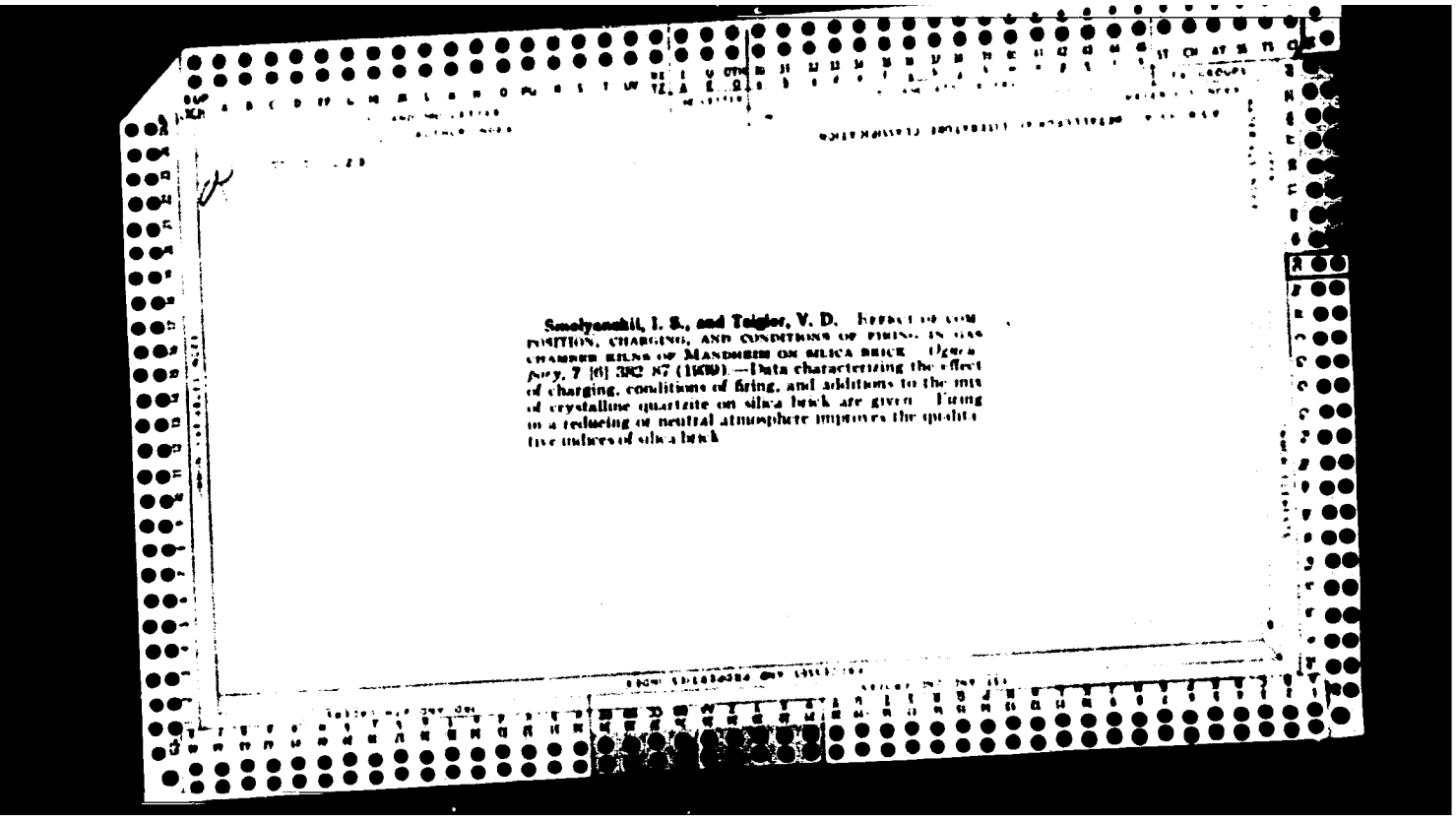
Smetanenkii, I. S. SILICA BRICK OF IMPROVED CHARACTERISTICS (REFRACTORINESS AND SOFTENING UNDER LOAD) FOR ELECTRIC FURNACES. *Ukrain. Nauch. Issledovatel. Inst. Ogneuporov & Kislotaporov*, No. 41, 62 pp. (1937). See "Electroglimas," *Ceram. Abstracts*, 16 [4] 119 (1937).



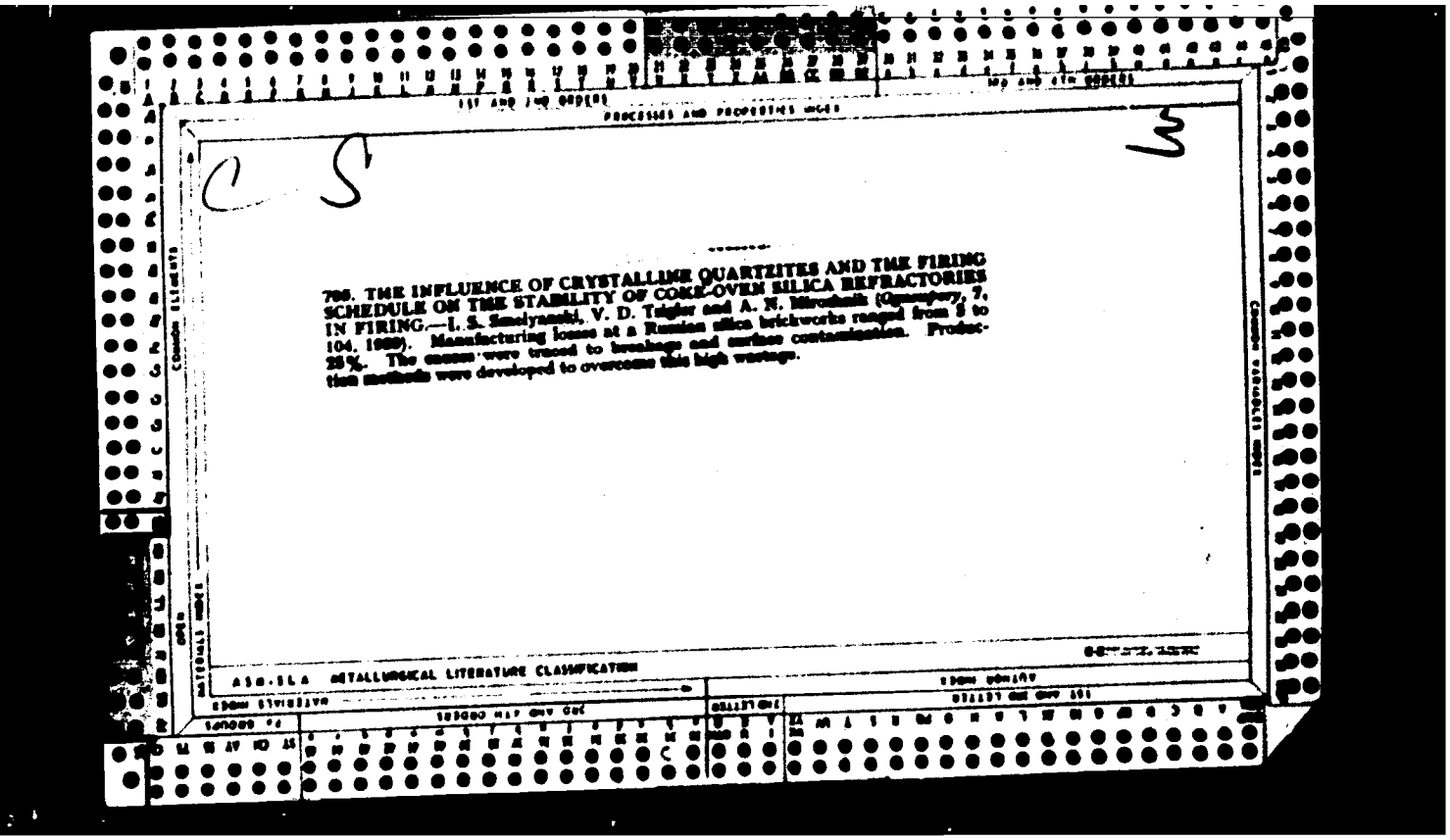
Smelyanskii, L. S. MANUFACTURE OF DINAS BRICK WITH INCREASED RESISTIVITY. *Stal*, 8 [4] 76–78 (1938). — One of the principal methods of increasing the thermal resistivity consists in preparing Dinas brick from a mass with a large granulated composition and a reduced content of lime. Brick prepared from such a mass, called electrodinas, were not destroyed by firing tests. The mass of electrodinas contains grains of quartzite of 8 mm. and about 30 to 35% of grains of 0.5 mm. Because of the presence in ordinary Dinas brick of 50 to 60% of small grains and about 3% of lime and other oxides, about 19% of glass is formed in firing which shows poor heat resistivity of these brick. Electrodinas contains about 1.6% of lime and a maximum of 35.8% of grains up to 0.8 mm. The composition of electrodinas is quartz 18, cristobalite 17, tridymite 66, and glass about 5.8%. S. describes the results of tests of electrodinas brick in the roof of an electrical furnace of the Elektrostal works. During the fusion, boiling, and refining of metals, visible fissures and breakage of the brick were not evident. Electrodinas brick in the roof of an 8-ton electrical furnace withstood 43 fusions. The minimum mechanical strength of electrodinas is double that of ordinary Dinas brick, and electrodinas possesses a higher heat resistivity. To raise the refractoriness of Dinas to 1750°C., S. prepared a Dinas brick with a siliceous binding and without lime.



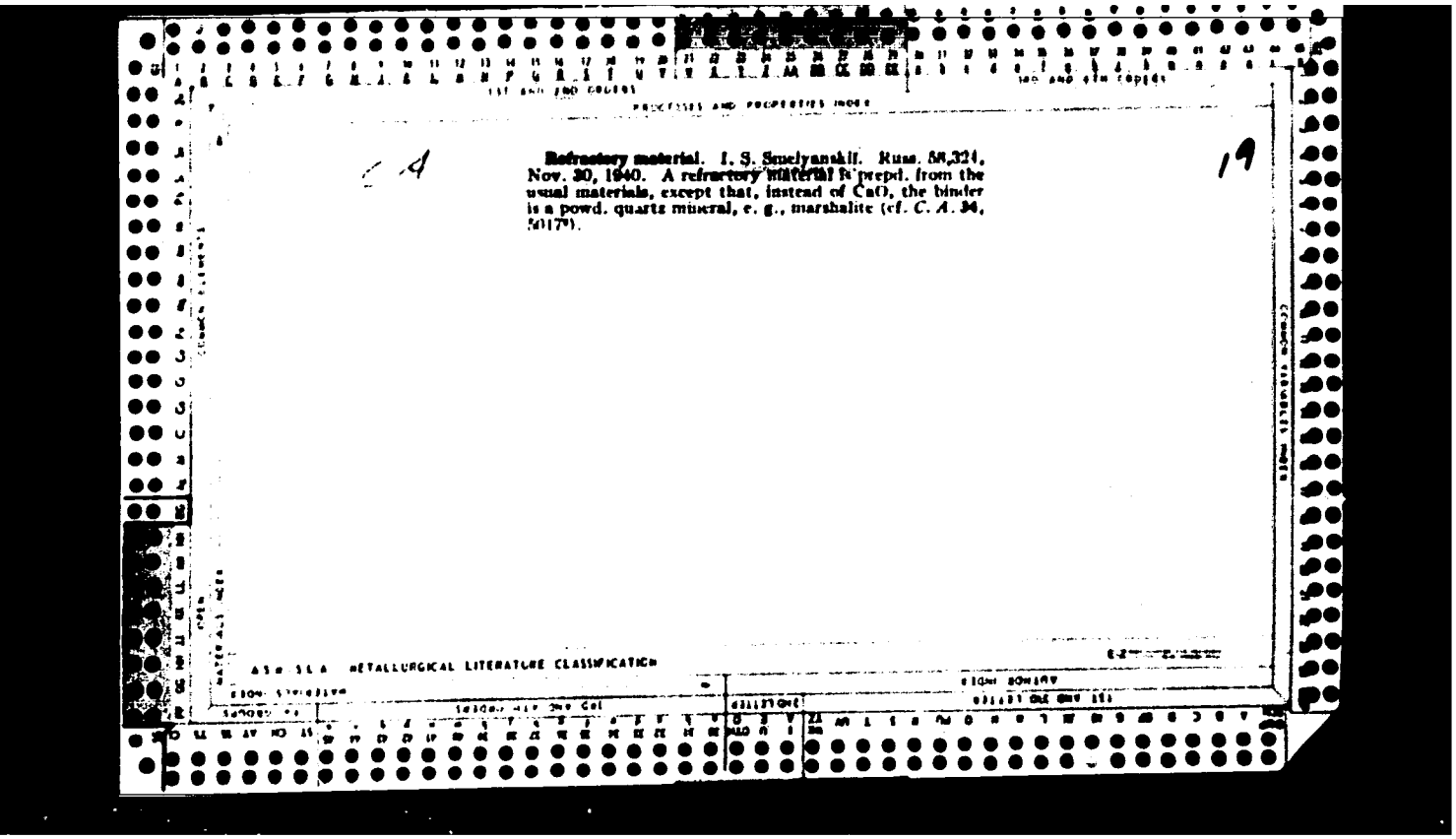
Smelyanskii, L. S. SILICA BRICK WITH A SILICEOUS BOND. *Trudy Nauch.-Issledovatel. Inst. Ogneuporov & Kislotauporov*, No. 44, pp. 29-43 (1938).—A method for manufacturing silica brick with a siliceous bond (without lime) having the same refractoriness as quartzites has been developed. Due to a replacement of the lime bond by a siliceous bond, the chemical composition of these brick does not differ from the average composition of quartzites from which the brick is produced. Hence the refractoriness of such brick depends basically on the refractoriness of the raw materials. Silica brick with a refractoriness of 1770°C. may be obtained when using quartzites with a high silica content free from fluxes (mica, etc.). The advantage of such silica brick over silica brick with a lime bond is that the former have a higher silica content and therefore have a higher refractoriness. Various types of quartz containing 96 to 97% silica may be used as raw materials for the siliceous bond. The most suitable are crystalline quartzites or cement quartzite with a retarded velocity of transformation.



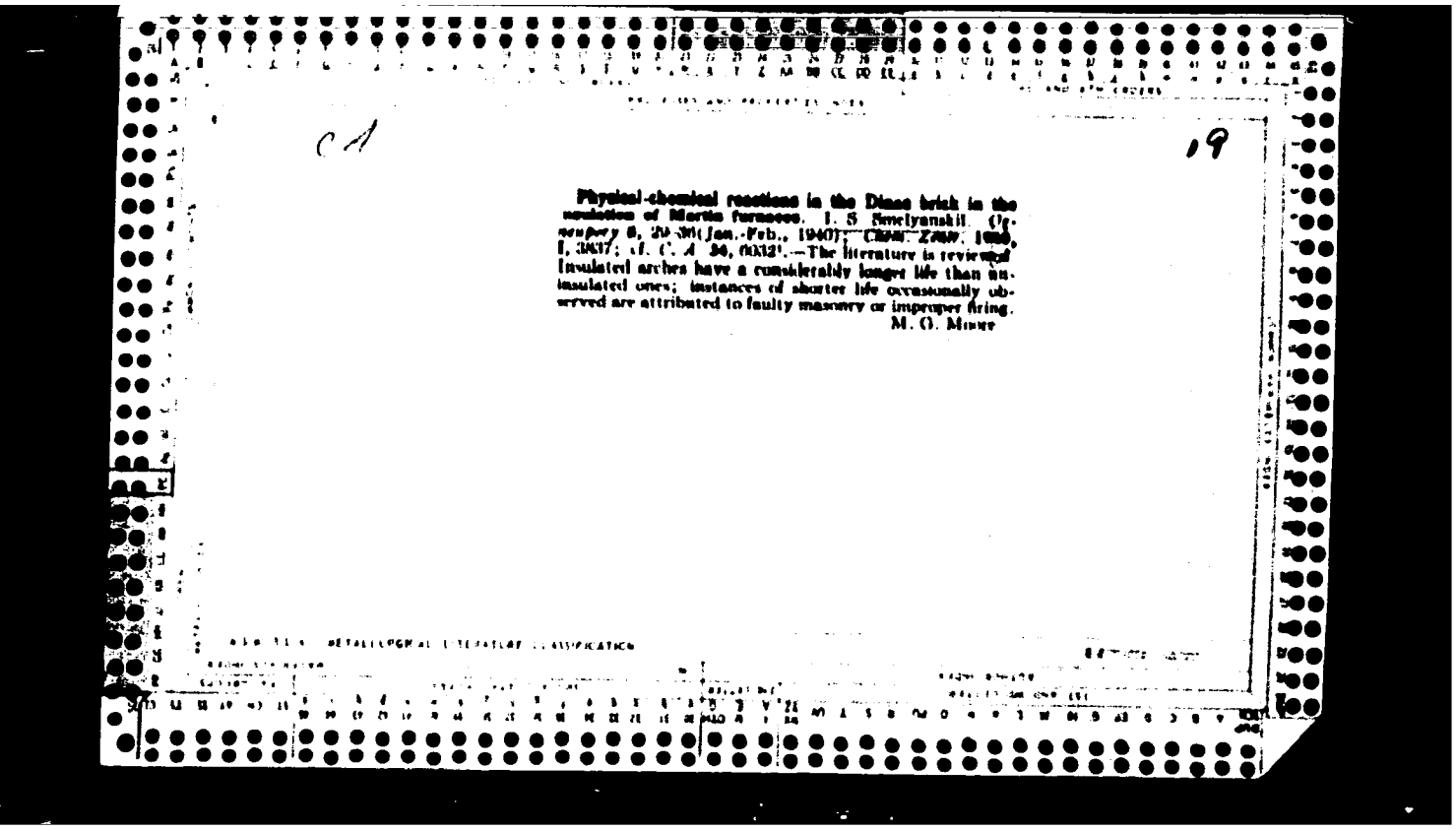
Smolyanskii, I. S., and Teigler, V. D. Effect of composition, charging, and conditions of firing in gas chamber kilns on magnesite on silica brick. Ogneupory, 7 [6] 282-87 (1939).—Data characterizing the effect of charging, conditions of firing, and additions to the mix of crystalline quartzite on silica brick are given. Firing in a reducing or neutral atmosphere improves the qualitative indexes of silica brick.



706. THE INFLUENCE OF CRYSTALLINE QUARTZITES AND THE FIRING SCHEDULE ON THE STABILITY OF COKE-OVEN SILICA REFRACTORIES IN FIRING.—I. S. Smolyanskii, V. D. Teigor and A. N. Mirotvorskii (Ogneupory, 7, 104, 1939). Manufacturing losses at a Russian silica brickworks ranged from 8 to 25%. The causes were traced to breakage and surface contamination. Production methods were developed to overcome this high wastage.



Refractory material. I. S. Shelyanskii. Russ. 58,324, Nov. 30, 1940. A refractory material is prepd. from the usual materials, except that, instead of CaO, the binder is a powd. quartz mineral, e. g., marshalite (cf. *C. A.* 34, 5017⁹).



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Physical-chemical reactions in the Dinas brick in the [illegible] **of Martin furnaces.** I. S. Smelyanskii. (*Ogneupory* 8, 29-36 (Jan.-Feb., 1940); *Chem. Zentr.* 1940, I, 3837; *cf. C. A.* 34, 6333¹.—The literature is reviewed. Insulated arches have a considerably longer life than uninsulated ones; instances of shorter life occasionally observed are attributed to faulty masonry or improper firing.
M. G. Moore

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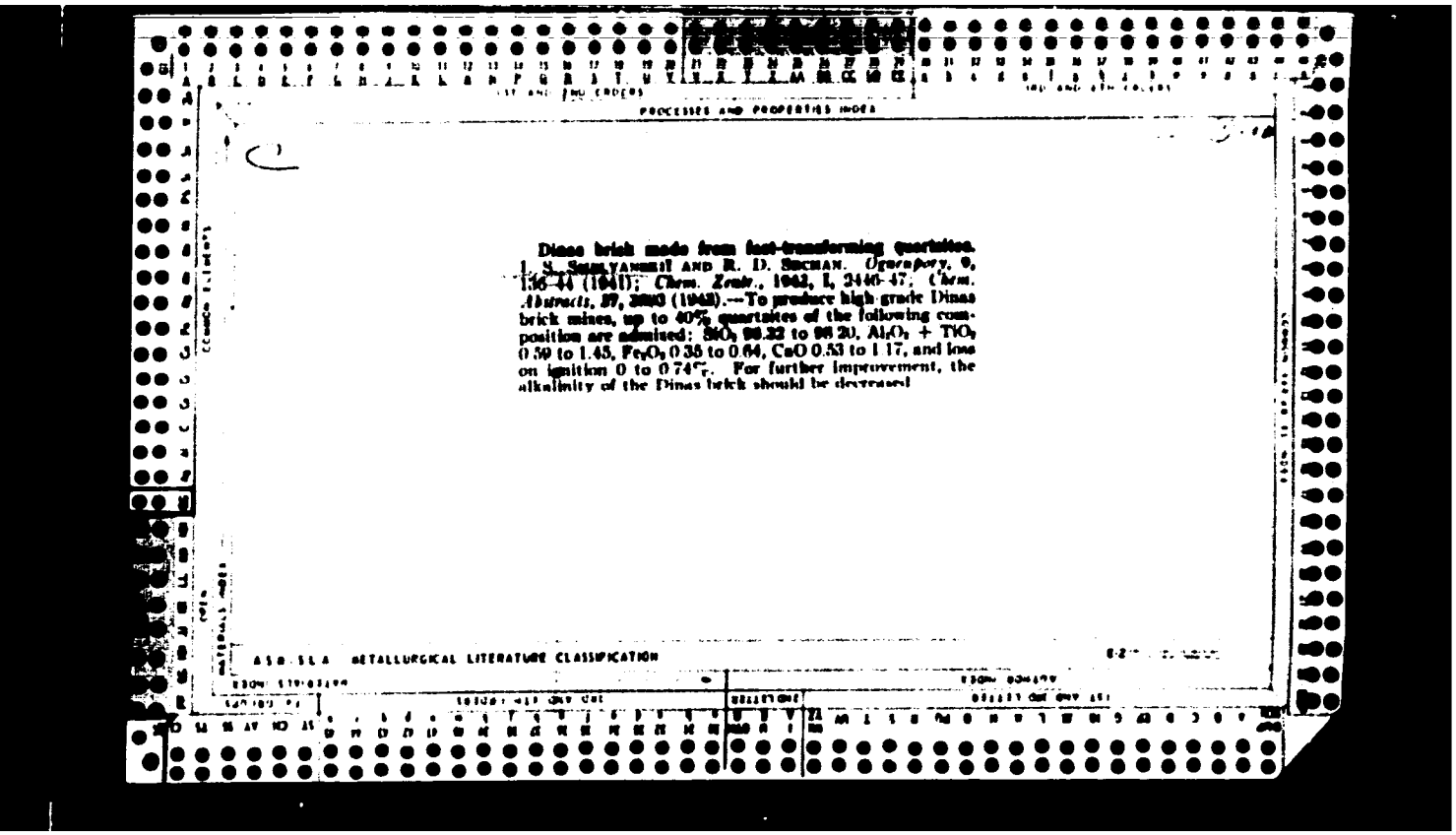

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Dinas brick made from fast-transforming quartzites. I. S. SHALYANNAIA AND R. D. SHCHAN. *Ogneupory*, 9, 136–44 (1941); *Chem. Zentr.*, 1942, I, 2440–47; *Chem. Abstracts*, 37, 2080 (1943).—To produce high grade Dinas brick mines, up to 40% quartzites of the following composition are admixed: SiO_2 96.32 to 98.20, Al_2O_3 + TiO_2 0.59 to 1.45, Fe_2O_3 0.35 to 0.64, CaO 0.53 to 1.17, and loss on ignition 0 to 0.74%. For further improvement, the alkalinity of the Dinas brick should be decreased

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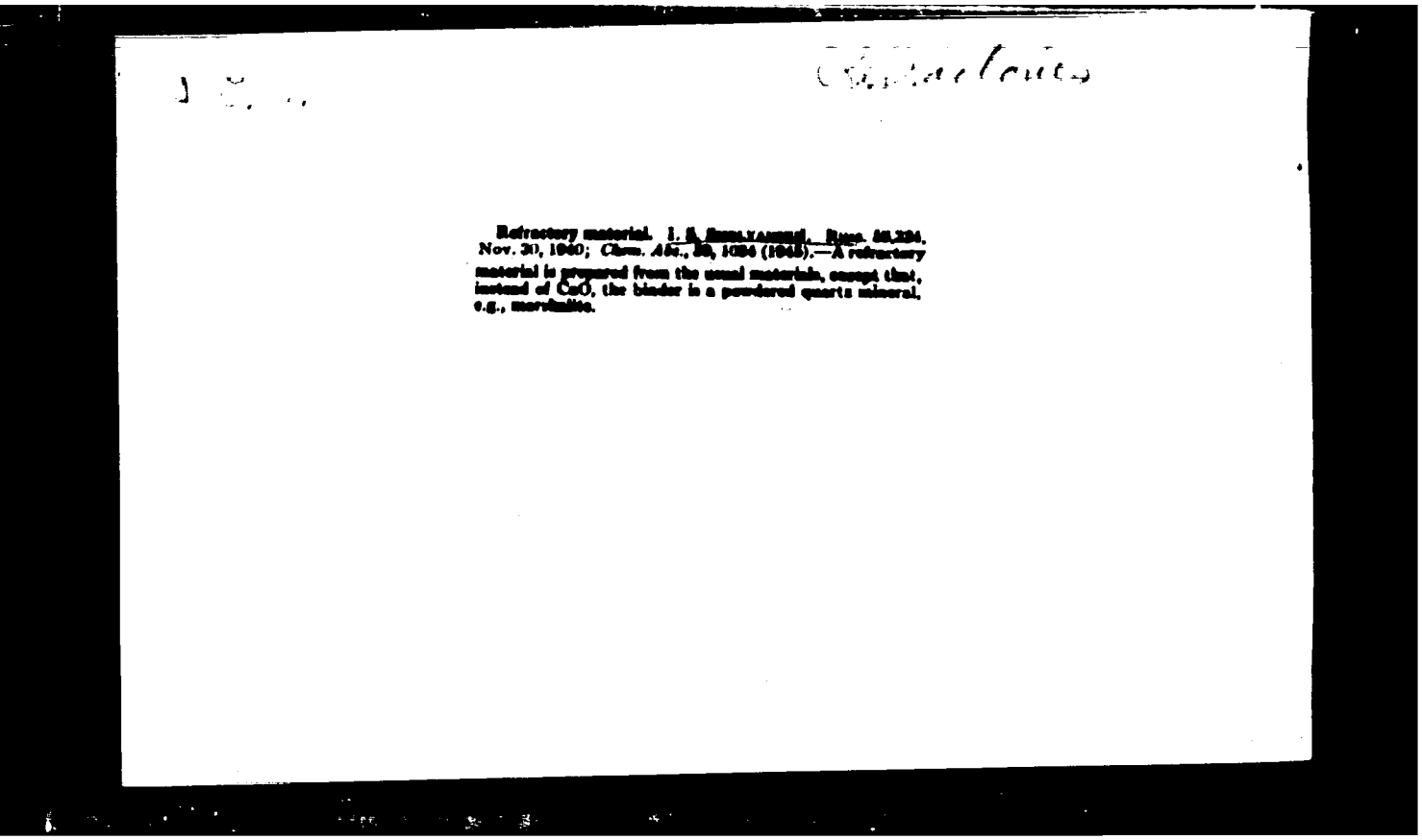
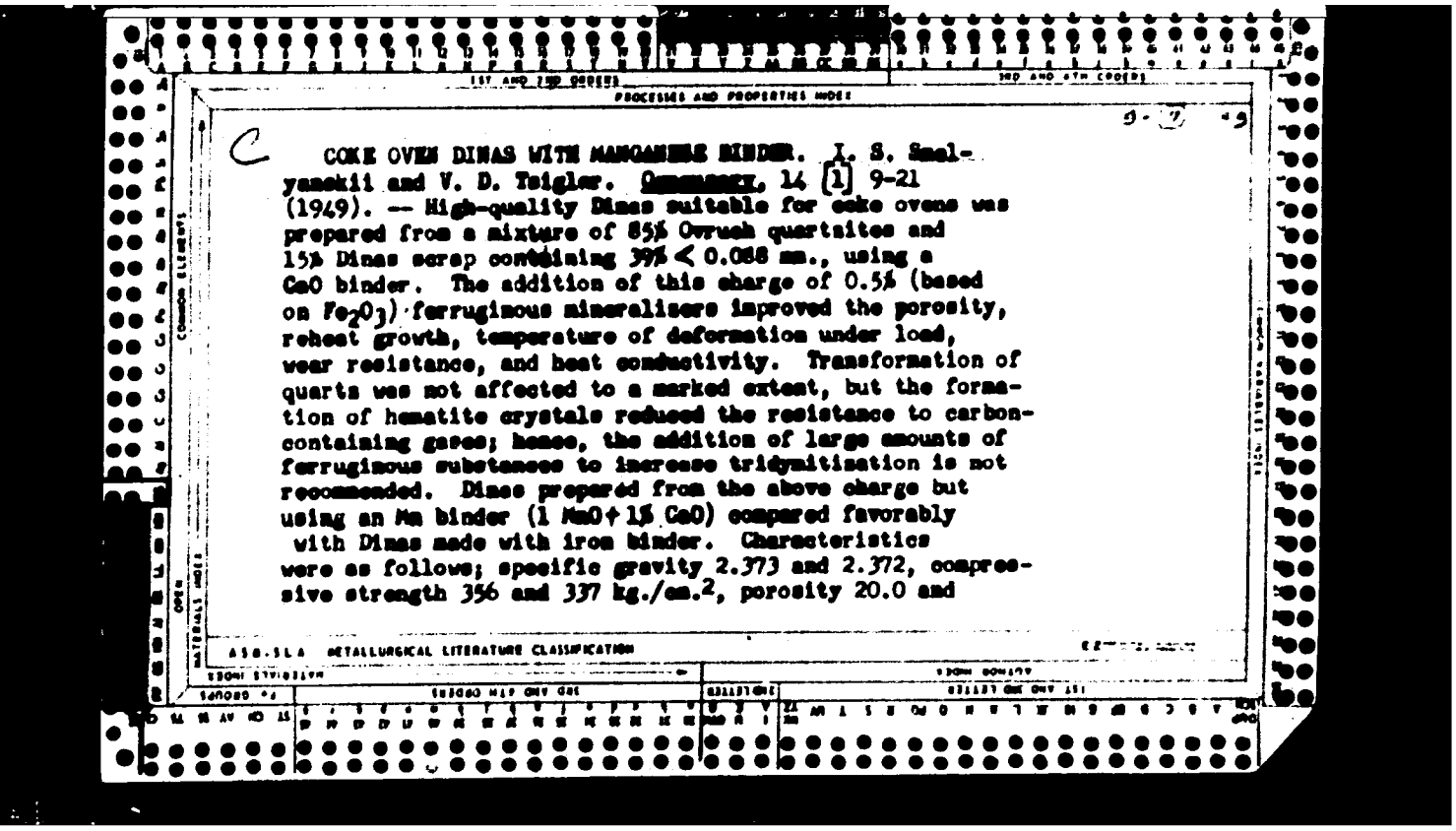


Refractory material. I. S. [illegible]. Russ. 60,224, Nov. 30, 1940; *Chem. Abs.*, 39, 1084 (1945).—A refractory material is prepared from the usual materials, except that, instead of CaO, the binder is a powdered quartz mineral, e.g., marshalite.

SHELYANSKII, I. S.

Technology of Ceramic Shapes (Tekhnologiya Keramicheskikh Izdelii). P. P. BUDNIKOV, A.S. BEREZHNOI, V.I. PEREVALOV, and I.S. SHELYANSKII. Published by Gosstroiizdat, Moscow, 1946. 524 pp., 208 illustrations. Price 36.25 rubles. Reviewed in Steklo i Keram., 5 (11) 23-24 (1948).-Part I covers raw materials. Technological properties and the scientific basis are presented in the light of modern physicochemical views. Part II covers structural ceramics; Part III, stone-ceramic shapes; and Part IV, refractory shapes. Parts V and VI are limited to glazes and ceramic colors. Numerous errors in the book are pointed out. It is approved as a text for chemical-technological institutes and faculties by the Ministry of Higher Education.

B.Z.K



C

COKE OVEN DINAS WITH MANGANESE BINDER. I. S. Smal-yanskii and V. D. Tsigler. [redacted], 14 [1] 9-21 (1949). — High-quality Dinas suitable for coke ovens was prepared from a mixture of 85% Ovruch quartzites and 15% Dinas scrap containing 39% < 0.088 mm., using a CaO binder. The addition of this charge of 0.5% (based on Fe_2O_3) ferruginous mineralisers improved the porosity, reheat growth, temperature of deformation under load, wear resistance, and heat conductivity. Transformation of quartz was not affected to a marked extent, but the formation of hematite crystals reduced the resistance to carbon-containing gases; hence, the addition of large amounts of ferruginous substances to increase tridymitization is not recommended. Dinas prepared from the above charge but using an Mn binder (1 MnO + 1% CaO) compared favorably with Dinas made with iron binder. Characteristics were as follows; specific gravity 2.373 and 2.372, compressive strength 356 and 337 kg./cm.^{2}, porosity 20.0 and

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20.2%, refractoriness 1710 and 1710°C., temperature of deformation under load of 2 kg./cm.^{2} 1656 and 1654°C., reheat growth 0.28 and 0.75%, heat conductivity 1.70 and 1.50 cal./ hr.m.°C., wear resistance 0.28 and 0.47 gm./cm.^{2}, tridymite content 69.3 and 62.5%, cristobalite content 19.0 and 23.5%, and quartz content 11.6 and 14.0% for Dinas with Mn and iron binder, respectively. A still greater degree of tridymitization was obtained from the same charge having 42% < 0.088 mm. and a maximum grain size not over 3 mm. The properties of Dinas with Mn binder were not impaired by using a charge consisting of 60% Ovruch quartzites, 25% Prochistov quartzites, and 15% Dinas scrap. Most effective ratio of MnO:CaO vary from 1:1 to 1:2; the first ratio is preferred, and absolute amounts should be 1% MnO and 1% CaO. Nikopol Mn ores can be used as the binder. For best results, charges containing 50% or more of Ovruch quartzites should have the following granulometric composition: maximum grain size 3 mm., 15 to 20% 0.5 to 0.088 mm., and about 40% < 0.088 mm.

B.Z.K.

ACS

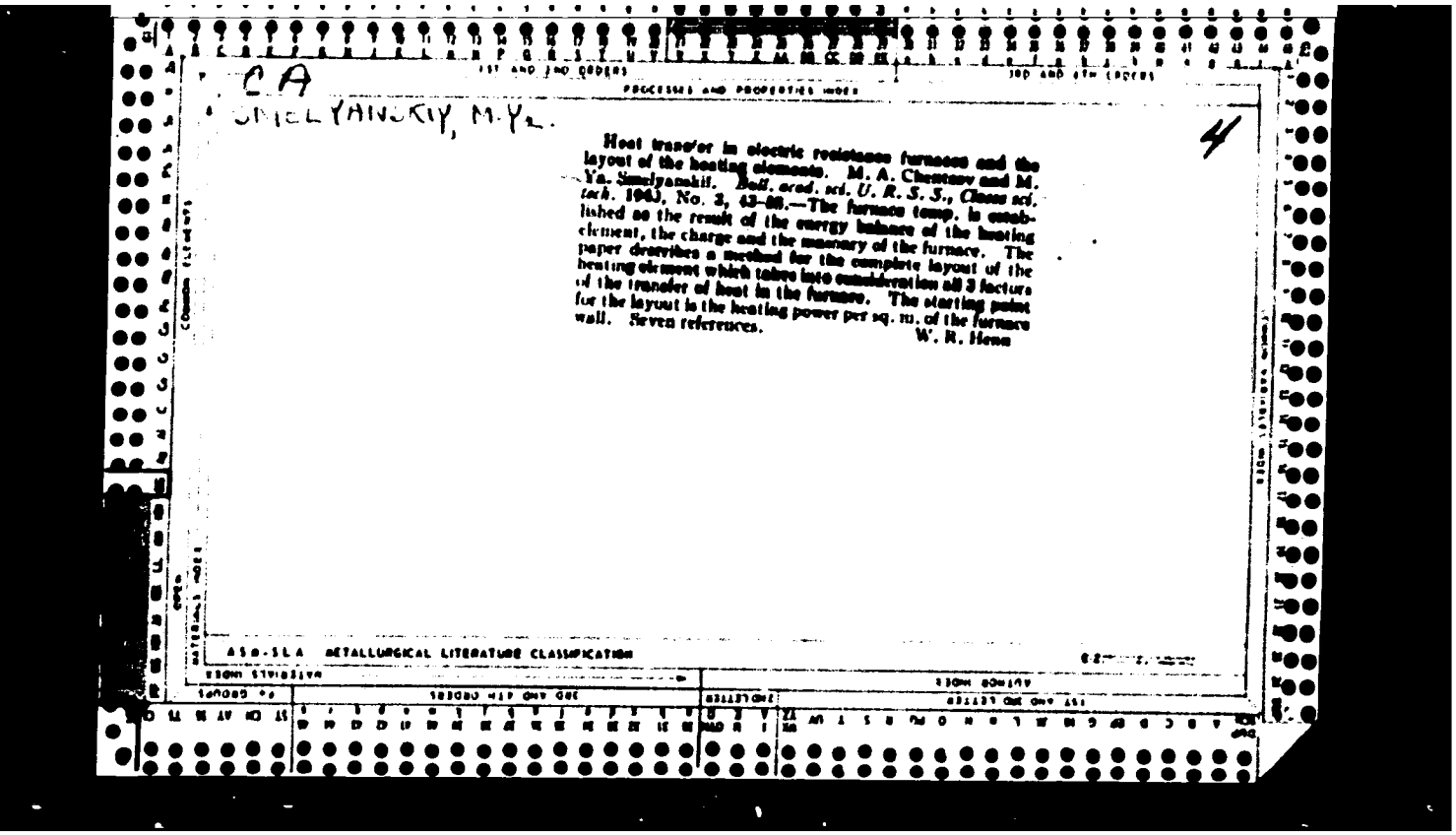
X

Apparatus for determining the thermal stability of silica brick for coke ovens. I. S. KAINARSKII AND I. S. SHELYANSKII. *Zavodskaya Lab.*, 15 [7] 873-76 (1949). The apparatus consists of a brick oven in which the front and side walls are the test brick. The furnace is heated with two Silit rods; after 3 to 4 hr., the temperature inside the front wall is not less than 1200°C. and that on the outside up to 650°. The front wall is then subjected to rapid cooling to 70° or 300° with a water spray. After three heat shock cycles, the front wall brick were subjected to an abrasion test with quartz sand. Thermal stability was evaluated on the basis of resistance to abrasion. Loss in weight of brick cooled to 70° was greater than for those cooled to 300°. The brick were taken from partition walls near the top of the vertical flues, but brick from the bottom of the oven can also be used for this evaluation. 3 photographs. B.Z.K.

SMELYANSKIY, I.S.

Quartzites from deposits in Ovruch and their preparation.
Ogneupory 21 no.2:59-65 '56. (MLRA 9:7)

1.Khar'kovskiy institut ogneuporov.
(Ovruch--Quartzite)



CA

SMELYANSKIY, M.Ya.

4

Heat transfer in electric resistance furnaces and the layout of the heating elements. M. A. Chernaev and M. Ya. Smelyanskii. *Bull. acad. sci. U. R. S. S., Classe sci. tech.* 1943, No. 2, 43–68.—The furnace temp. is established as the result of the energy balance of the heating element, the charge and the masonry of the furnace. The paper describes a method for the complete layout of the heating element which takes into consideration all 3 factors of the transfer of heat in the furnace. The starting point for the layout is the heating power per sq. in. of the furnace wall. Seven references.

W. R. Hess

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SMELYANSKIY, M. YA.

Oct 48

USSR/Electricity
Electrical Equipment
Testing and Standardization

"Comment on D. B. Mondrus, S. M. Margolin, and V. M. Zil'berman's Article, 'Standardization of High-Frequency Equipment,'" G. V. Der-Shvarts, C.nd Tech Sci, Moscow Power Eng Inst imeni Molotov, M. Ya. Smelyanskiy, Engr, Tsentropromelektropech MEP, 3/4 p

"Elektrichestvo " No 10

States views on subject (See 69T27)

PA 22/49T16

SMELYANSKIY, M. Ya., Docent

USSR/Electricity - Furnaces, Electric Oct 51
Modeling

"Electrodynamic Modeling of Electric Heating Equipments," G. V. Dershvarts, Cand Tech Sci, Docent M. Ya. Smelyanskiy, "Tsentropromelektropech'"

"Elektrichestvo" No 10, pp 47-51

Discusses the principles of electrodynamic modeling as applied to the design of elec heating equipments, particularly induction furnaces and current feeders. Submitted 23 Mar 51.

201T44

AID P - 1484

Elektrichestvo, 2, 87-88, F 1955

Card 2/2 Pub. 27 - 35/36

Institution: Chair of Electrothermal Installations of the Moscow Power Engineering Institute im Molotov and "Tsentropromelektropech' "

Submitted : No date